Seeger Builds Steel Bars and Backbars

ST. PAUL—All-steel bars and backbars to meet post-repeal requirements of hotels, restaurants, and taverns have been introduced by the Seeger Refrigerator Co.

The new Seeger equipment is available in a standard front bar with a number of combinations and variations in the backbar equipment.

The backbar is made up of a combination of cupboards and "step" display. These come in different sections of 3 and 4 ft. and are built in quantities, in those sizes, and then assembled into the different length bars as they are required.

The equipment in the front bar consists of coil boxes for beer dispensing, ice chests, workboards, and porcelain rinse bowls.

The ice chest consists of an insulated cabinet with two racked ice containers with porcelain covers and one 8-bottle compartment for mixed drinks.

Seeger's all-steel front bar is constructed of "ribbon type" grain panels in sectional construction, joined by scribing pieces with concealed bolts. The bar is finished with a solid one-piece bar top and a black porcelain "kick plate" at the floor.

Four different types of backbar combinations for use with the standard front bar are shown in the Seeger promotion literature which introduces the new equipment.

The "Commodore" backbar consists of an unusual arrangement of cabinets and drawers, to which is built a high back section, made of a series of grained panels, divided by strips of chromium and joined at each end to tower-shaped steel columns of black and ribbon grained walnut. Panels are finished in French butt walnut and embellished with modernistic mirrors. Lower section of the backbar is a combination of steel cabinets and drawers and a center electric lighted step display.

The "Admiral" model has black and silver decorations supporting the center panel. Each color superimposed over the back panels with a slightly forward step gives the "Admiral" model individuality, and is in keeping with the current modernistic trend in decorative effects. Bottom arrangement is same as in the "Commodore" model.

The "Commander" model has a high back which consists simply of a series of French butt walnut panels, each slightly stepped forward toward the center, with a narrow black trim along the upper edge. Bottom arrangement is similar to the "Commodore" model.

The "Pilot" model is designed for tap rooms, restaurants, etc., that do not lend themselves to the use of a high backbar. The low back has a specially built recessed section for the cash register and two glass shelves.

Saunders Made Wholesale Manager of Branch

NEW YORK CITY—Keith Saunders has been appointed wholesale sales manager of the Frigidaire factory branch here.

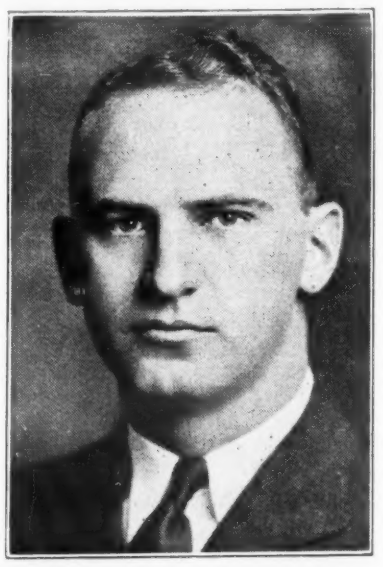
McCORD
REFRIGERATION
PRODUCTS

Commercial Evaporators
Domestic Evaporators
Condensers
McCord Ice Trays
Spiral Finned Tubing
Spiral Copper Finned Iron,
Steel or Copper Pipe

McCORD
RADIATOR &
MFG. CO.
DETROIT - - MICH.

Strachan Promoted by Kerotest; Newcum to Head N.Y. Office

JAMES A. STRACHAN



KENNETH M. NEWCUM

* * *

PITTSBURGH—Kerotest Mfg. Co. has announced two changes in its sales personnel.

James A. Strachan, district manager in the New York territory for the past two years, has been named assistant sales manager of the brass division, and will be located in the main office at Pittsburgh.

Mr. Strachan has been affiliated with Kerotest for over five years.

Kenneth M. Newcum is the new Kerotest district manager in the New York territory. For several years Mr. Newcum was employed in the service departments of both the Frigidaire and Kelvinator distributors in St. Louis, later becoming service manager for the Zero Plate Corp. of Chicago.

In 1932 he was sent to New York by the latter company to take charge of their New York territory. He assumed his duties as Kerotest district manager Jan. 15.

Below-Cost Sales Barred In Fin Coil Code

(Concluded from Page 1, Column 2)

and direct labor including the following: power, light, heat, water, and other buildings and equipment; executive, supervisory, engineering, experimental, and development; sales and office salaries and expenses, rent, professional and collection expenses, adequate depreciation and obsolescence of all buildings and equipment at rates agreed upon, insurance, all taxes, and all other items and expenses necessary and incidental to the manufacture and sale of such products.

The fair trade practice proposals rule out any discount or allowance which would result in the sale of any product on contract at net prices at less than cost.

Products commonly sold at list prices and not on contract shall be sold f.o.b. factory or established warehouse centers, according to the proposed code provisions. Established warehouse is understood to mean a company owned or operated or recognized independently operated warehouse. No warehouse facilities can be rented from customers, salesmen, or sales agents.

On contract business prices on a specific unit shall be quoted on a firm basis but quotations can be made on alternate constructions or changed to conform to fluctuating costs of material or labor, it is proposed in the code.

It is also proposed that quotations on contract goods shall not be made except for specific quantities unless the buyer has been definitely committed in writing for the total amount of metal in excess of specified quantities.

Electric Kitchen as Load Builder Studied By Utility Managers

CLEVELAND—Attention of central station executives from all sections of the country was focused upon the all-electric kitchen as an effective vehicle for building load and revenues, at the January central station merchandising managers' sales conference, held in General Electric Institute here with approximately 100 utility merchandising managers in attendance.

Outstanding points stressed by speakers before the conference were:

1. Managing executives today are unanimous in their feeling that the way to offset taxation and other burdens is through new kilowatt hours and new revenues—greater consumption of kilowatt hours per customer.

2. The domestic market offers the greatest field for quick and economical development; and 80 per cent of the potential domestic load is in the kitchen.

3. The modern all-electric kitchen, including electric range, dishwasher, refrigerator, water heater, adequate lighting, and other equipment, consumes better than 6,400 kilowatt hours annually and the annual revenue is better than $150.

4. When fully equipped, one electric kitchen is better than 10 average new customers in terms of kilowatt hour consumption and better than five average new customers in terms of revenue, so that a 10 per cent saturation of all-electric kitchens would double the present residential load in kilowatt hours and a 20 per cent saturation would double the present residential revenue in dollars.

The conference was held under the direction of H. H. Bosworth, manager of the central station division, specialty appliance sales department of General Electric Co. Mr. Bosworth told of the part which G-E is playing in promoting the all-electric kitchen idea and of the advertising and merchandising helps which it makes available to retailers.

Others who took part in the program included P. B. Zimmerman, manager of the specialty appliance sales department; J. B. Johnson, Ohio Public Service Co.; Austin Monty, Philadelphia Electric Co.; Clara Zilleson, Philadelphia Electric Co.; V. H. Moon, Middle West Utilities Co.; G. W. Allison, Edison Electric Institute; and A. L. Scaife, P. H. Dow, W. J. Daily, J. DeJen, C. W. Appleton, A. M. Sweeney, W. M. Timmerman, J. R. Poteat, F. W. Cuffe, W. E. Landmesser, Freeman Barnes, C. M. Snyder, William Gluesing of General Electric Co.

Conference Participants

Among those who attended the conference were:

H. A. Keys, Byllesby Engineering & Management Corp.; A. E. Ward, Associated Gas & Electric Co.; J. F. Derge, Electric Bond & Share Co.; Cyrus Barnes, Chas. H. Tenney & Co.; G. J. Reichert, Niagara Hudson Power Corp.; A. A. Sweeney, New England Power Corp.; J. W. Tracy, Bard & Barger, Inc.

C. G. Neff, Southern Ohio Electric Co.; C. P. Golding, United Electric Light Co.; Austin Monty, Philadelphia Electric Co.; Max Hoagland, Illinois Power & Light Co.; R. J. Malcomson, Public Service Co. of Northern Illinois; E. J. Otterbein, Peoples Light Co.; M. B. Mendenhall, Crescent Electric Supply Co.; H. G. Isley, Carolina Power & Light Co.; C. L. Dunn, Ohio Public Service Co.

J. B. Johnson, Ohio Public Service Co.; H. D. Makeever, Peoples Gas & Electric Co.; C. R. Rudy, N. Y. State Electric & Gas Co.; T. S. Craig, Elmira Light, Heat & Power Co.; Dorcey Hines, The Hines Co.; Lawrence Jennings and F. A. Mitchell, Eastern Shore Public Service Co.; W. P. Dashiell, Hines Co.; C. V. Sorenson, Public Service Co. of Indiana; J. A. Bartlett, Potomac Electric Power Co.

C. M. England, Pennsylvania Power Co.; E. R. Folber, Madison Gas & Electric Co.; H. W. Cooper, Wisconsin Power & Light Co.; F. J. Cottrill, Wisconsin Power & Light Co.; F. M. Turner, Mississippi Power Co.; M. C. Morrow, Pennsylvania Power & Light Co.; J. E. North, Electrical League, Cleveland; Joseph Riesenman, Keystone Public Service Co.; Vick Stalford, Ochiltree Electric Co.; R. E. Browne, Perry-Browne, Inc.; E. W. Allen and M. P. Clough, Lynn Gas & Electric Co.

Richard Lincoln and Frank Belden, Edison Electric Illuminating Co.; W. L. Thompson, W. L. Thompson, Inc.; R. R. Hindley and R. E. Maurer, Lower Peninsula Power Co.; G. H. Day, Utica Gas & Electric Co.; R. H. Giedd, Virginia Public Service Co.; H. P. Weeks, Peoples Power Co.; T. S. Murray, Tide Water Power Co.

R. W. Martin, L. W. Driscoll, Inc.; R. E. Cuthbertson, Electrical Housekeeping, Inc.; R. M. Bleak, Utah Power & Light Co.; L. W. Brainard, Idaho Power Co.; J. A. Herbert, Ohio Public Service Co.; Joe Hunt, Ohio Electric Power Co.; C. Shockney, Ohio Electric Power Co.; C. E. Pask, Electrical Housekeeping, Inc.

C. W. Appleton and J. M. Walker, General Electric Co., New York; R. H. Ferguson, General Electric Co., Chicago; T. B. Allen, General Electric Co., Atlanta; S. G. Coates, General Electric Co., Cleveland; Mat Thernes, Ohio Public Service Co.; F. H. Stone, Duquesne Light Co.; E. M. Diehl, General Electric Co., Atlanta; Tim Terrell and Jim Horgan, Ohio Public Service Co.

C. C. Henderson, O. C. Snavely, J. R. Halladay, and E. L. Franklin, Ohio Public Service Co.; M. Luckiesh and N. H. Boynton, General Electric Co., Cleveland; R. F. Lander, East Tennessee Light & Power Co.; A. F. Head, Hoosier Electric Refrigerator Corp.; R. Cooper Jr., R. Cooper Jr., Inc.

Championship Beef

These Choice Beef Cuts are from
Grand Champion
"BRIARCLIFF MODEL"
purchased by the Palmer House to
serve the guests in our Five famous
public dining rooms

Cuts of meat from the Grand Champion Steer at Chicago's International Livestock Exposition were displayed in this Seeger display case in the arcade of the Palmer House, Chicago. The meat was served in the hotel.

Kelvinator Home Economists Plan to Extend Kitchen Activities

DETROIT—Fifty-five home economists, representing the company's distributors and utility outlets in all sections of the United States and Canada, were here this week as guests of Kelvinator Corp. to hear outlined the 1934 activity program of the Kelvin Kitchen.

Five full days of intensive work were on the program arranged by Miss Pauline Peacock, director of the Kelvin Kitchen, and members of the staff of the institution.

Staffs Will Be Increased

Pointing out that Kelvinator's home economics program this year is the most intensive ever undertaken, Miss Peacock announced that both the Kelvin Kitchen staff and the personnel in the field is to be increased considerably, to carry on this program.

The annual series of schools held by the Kelvin Kitchen staff and by distributor home economists will be more than the customary cooking schools in 1934, it was announced, as plans were revealed showing that this year's classes will offer complete training in the fundamentals of home management, with entertaining, decorations, floral etiquette, budgeting, and many similar subjects being covered as well as cooking and home refrigeration. The home economists now visiting Detroit form the majority of the group who will conduct these schools.

Outline of Activities

Special dessert freezing and cold cooking demonstrations in dealers' showrooms during special sales periods; assisting department stores in putting on cooperative functions; helping salesmen and dealers with food store demonstrations; calling on Kelvinator owners with new recipes and suggestions for getting the most good out of their refrigerators—these are some of the activities contained in the Kelvin Kitchen's 1934 activity program.

Home Economists at Meeting

Home economists attending the meeting were:

Mrs. Ruth Carmen, Elmira; Mildred Rees, Minneapolis; Mary Kibler, Albany; Mable Kirkland, Charleston, S. C.; Katherine Caldwell, Toronto; Mrs. Bailey, Toronto; Mrs. Jane Satterthwaite, Worcester, Mass.; Mrs. Florence Williams, Omaha; Susan Brandon, Birmingham, Ala.

Mrs. Jennie Hamilton, Mobile; Mrs. Hattie Channey, Pittsburgh; Mrs. Jamieson, Wheeling, W. Va.; Mrs. Belle Gardiner, Marion, Ohio; Mrs. Blanche Mitchell, Indianapolis; Helen Tippit, Joplin, Mo.; Mildred Prater, Springfield, Mo.; Mrs. Lucille Stonell, Richmond, Va.

Margaret Macey, Davenport; Florentine Richardson, Erie, Pa.; Lyllian Alexander, Charlotte, N. C.; Mrs. Buela Harris, Pensacola, Fla.; Grace Johnston, Gastonia, N. C.; Louise McCullough, St. Louis; Helen Clabaugh, Cleveland; Fern Snider, Atlanta; Mrs. Lewis, Atlanta; Mildred Scott, Boston.

Mrs. Erma Campbell, Chicago; Caroline Whittemore, Chicago; Blanche Flynn, Chicago; Adeline Dassow, Milwaukee; Joyce G. Buth, Greenbay, Wis.; Mrs. Eugene Murphy, Columbus, Ohio; Helen Batterson, Portland, Ore.; Millicent Barnes, New Britain, Conn.; Margaret Doughty, Greenville, N. C.; Edith Glancy, Lima, Ohio.

Betty Carr, Lima, Ohio; Valentine Thorson, Minneapolis; Miss Stella MacElveney, Portland, Me.; Mrs. Norma Niehoff, Buffalo; Mary Kirk, Syracuse; Sarah King, Sault Ste. Marie; Mrs. Izora Whiffin, Kalamazoo; Carolyn Ely, Boston; Catherine Warne, Hagerstown, Md.; Delphine Lerschen, Manchester, N. H.; Bernice Manning, Columbia, S. C.; Elaine Jones, Sioux Falls, S. D.; and Mrs. Shaw, New Hampshire.

From the staff of the Kelvin Kitchen and the Detroit sales branch also came Miss Peacock, Eva McPherson, Dorothy Covert, A. H. Stone, Alice Cooley, Jean Gearing, Phyllis Harris, and Edith Marion Gannett.

When Special Coils Are Needed Here's Quick Service

EVERY normal coil requirement can be supplied from our line of 124 Standard Models and Sizes all of which are stocked for quick delivery at Atlanta, Brooklyn and Chicago.

Occasionally an unusual installation requires a special size Coil. These coils are made to order *only* at our Atlanta factory. Our production facilities are geared to fast special order service.

NRA MEMBER U.S. WE DO OUR PART

Larkin
Refrigerating Corporation

Originator and Manufacturers
ATLANTA, GA., U.S.A.

WAREHOUSES
Brooklyn - Chicago

100% VERTICAL SURFACE

U.S. PATENT No. 1,776,238.

LARKIN COILS

THE NEWSPAPER OF THE INDUSTRY

ELECTRIC REFRIGERATION NEWS

WRITTEN TO BE READ ON ARRIVAL

Registered U. S. Patent Office

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS. MEMBER PERIODICAL PUBLISHERS INSTITUTE.

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THREE DOLLARS PER YEAR
TEN CENTS PER COPY

KELVINATOR ADOPTS NEW CABINET DESIGN

Improvements Made in 1934 Grunow Compressor

2 Super Deluxe Models Added; 9 Units in Line

Shaft Seal Has Been Eliminated, Cabinet Design Unchanged

CHICAGO—Two hundred representatives of 75 General Household Utilities distributors met at the Lake Shore Athletic club here Jan. 22 and 23 to see what Bill Grunow has done to his refrigerator, and what merchandising plans his sales executives are recommending.

They found that his work on the refrigerator has been an inside job; the exterior looks almost exactly the same as last season, although several alterations have been made in the unit and the food chamber interior. And he has two new "super deluxe" refrigerators, making a total of nine models in the '34 line.

Featured change in the Grunow this year is in the compressor. As com-

(*Concluded on Page 16, Column 4*)

Refrigeration Code Hearing Is Opened

WASHINGTON, D. C., Jan. 29.—Hearings opened today under the direction of Deputy Administrator H. O. King on the proposed code of fair competition for the electric refrigeration industry as submitted by the Refrigeration Division of the National Electrical Manufacturers Association.

The proposed code is supplemental to the basic Nema code which governs the electrical industry, and contains provisions pertaining to trade and advertising practices only, the refrig-

(*Concluded on Page 7, Column 1*)

ABC Plans to Use Specialty Outlets

CHICAGO—Automatic Burner Corp. is now committed to a policy of merchandising its oil burners through specialty distributors—successful electric refrigeration distributors preferred.

This move by one of the pioneer manufacturing concerns in the oil burner business stands out in sharp contrast to the methods of the rest of the industry, which distributes its products through branches and through dealer outlets of the plumbing and heating type.

Select electric refrigeration distributors from various parts of the nation attended a three-day meeting in the Hotel Knickerbocker here last week, at which they heard the ABC oil burner story, and were urged to sign for franchises.

President J. H. Hirsch, Vice President Joseph Hirsch, Vice President Oscar Schroeder (the inventor of the

(*Concluded on Page 12, Column 5*)

Paneled Cabinet Front Marks New M & E Refrigerators

PHILADELPHIA—In line with the current trend, Merchant & Evans household electric refrigerators this year will have styled cabinets, a paneled cabinet front being the distinguishing feature, according to F. E. Wilson, sales manager, refrigeration division, Merchant & Evans Co.

New sales and price policies have been announced for "M & E" household refrigerators this year, Mr. Wilson declares. The line will be merchandised through a distributing organization that is prepared to sell direct to the consumer, and not through the typical distributor-dealer setup.

The factory has established list prices with distributor discounts, which is a change from the former policy in which Merchant & Evans sold on net prices, giving the distributor the option of establishing his own resale price.

The installed price range of the 1934 "M & E" line is from $117 to $272.50. There are three all-porcelain models, one model with lacquer exterior and porcelain interior, and three models with a Dulux exterior in the new line.

Cabinets will be furnished by Seeger. They will have illuminated interiors and centered evaporators. Cabinet and system will both carry a one-year guarantee. Multicel insulation will be used in all cabinet construction.

"M & E" household systems are of the conventional type, with reciprocat-

(*Concluded on Page 16, Column 1*)

Majestic Is Now Operating on Limited Basis

Distributors Hope to Aid Reorganization of Company

By George F. Taubeneck

CHICAGO—Grigsby-Grunow Co. is now operating in receivership on a limited basis. The receivers, having turned down the petition of Majestic officials for a large appropriation for an expansion of activities, are leaving the door open for a reorganization of the company.

Meanwhile, Majestic is doing business as usual. Distributors from all sections of the country gathered in Chicago last week, and voted to continue their relationships with Grigsby-Grunow.

A distributors' committee has been chosen to work with the receivers, creditors, and others toward a possible reorganization. Members of this committee include Elmer Hamburg of Pittsburgh and William Colen of New York City, co-chairmen; George Proudfoot, Lincoln, Neb.; William Evans, Huntington, W. Va.; W. Schulteman, Chicago; Francis Stern, Hartford, Conn.; and Harry Lever, Atlanta.

These men, along with several other distributors, are staying in Chicago to assist with plans for putting Majestic back on its feet.

New Norges Shown to 250 Wholesale Salesmen

By Elston D. Herron

MUSKEGON, Mich. — For the first time in its history, Norge Corp. turned its entire attention to the work of its distributors' field men, when, on the first three business days of last week, they met in convention here to see the company's 1934 products and study merchandising plans as they concern the wholesale salesman—whom Vice President John Knapp declared to be the "industry's forgotten man."

Some 250 of the men packed the Hotel Occidental for the meetings, which were participated in by every major executive of Norge Corp. except President Howard E. Blood, who was in Washington at hearings on the proposed code of the refrigeration division of Nema.

In his first address to the wholesale men, Mr. Knapp touched on highspots

(*Continued on Page 4, Column 1*)

5 Wurlitzer Units Shown Distributors

NORTH TONAWANDA, N. Y.—All sales representatives of the Rudolph Wurlitzer Mfg. Co. gathered at the company's plant here a fortnight ago to see the 1934 line of Mohawk electric refrigerators, and hear sales plans outlined by Homer E. Capehart, general sales manager.

Five models comprise the line, three of them with paneled doors and compressor compartment shields. All models are mounted on conventional broom-high legs, and have a semi-streamlined appearance because their tops are flush with sides of the cabinets.

Smallest model is L-40, a lacquer job with 4 cu. ft. of storage space, and a shelf area of 7.4 sq. ft. Its two trays make 36 cubes of ice per freezing. The cabinet has 1½ in. of Temlok insulation. This model does not have a paneled front.

Next in size is L-46, the other unpaneled model. It has a 4.6-cu. ft. net

(*Concluded on Page 13, Column 4*)

A.S.H.V.E. to Consider Air Conditioning

NEW YORK CITY — Engineering factors in air-conditioning and the relation of comfort cooling to human comfort and efficiency will be discussed in technical papers to be delivered at sessions of the American Society of Heating and Ventilating Engineers which opens next Monday at the Biltmore hotel here.

The Third International Heating &

(*Concluded on Page 2, Column 1*)

3 Food Filing Drawers Placed In Deluxe Line

5-Purpose Control to Be Featured in Lower Priced Line

By Phil B. Redeker

DETROIT—Styled cabinets and new and improved "convenience" features mark the 1934 Kelvinator "Twentieth Anniversary" line of domestic electric refrigerators, which will be introduced to the public by the distributing organization in a series of special showings.

Four distinct series of models, comprising 16 different units in all, make up the new Kelvinator line.

Reflecting Kelvinator's success with the higher priced models last year, the deluxe series embodies the largest number of models, the six cabinets in this group having a capacity range of from 6.58 cu. ft. to 23.32 cu. ft.

The "P" line includes four porcelain-finished models ranging from 5.13 cu. ft. to 8.73 cu. ft. in size. An "S" line of three models of 5.29, 6.35 and 7.54 cu. ft. and an "N" line, also of three models of 4.22, 5.29 and 6.43 cu. ft. capacities, complete the 1934 Kelvinator array.

The deluxe "P" and "S" lines have styled cabinets, the rounded edges of the flat table tops flowing gracefully into the side panels and continuing down to the lower part of the cabinets. Embossed panels on the sides and a raised panel on the door lend further distinction to the cabinet lines.

Among the new departures in construction which feature the new cabinets is the building of the legs as an integral part of the frame. Within each leg is an inner core of spruce, which is a continuation of the cabinet

(*Concluded on Page 16, Column 3*)

Electrolux Designs Model for Kerosene

NEW YORK CITY—A kerosene-operated Electrolux refrigerator for farms and other localities not served by gas or electricity has just been announced by F. E. Sellman, vice president of Electrolux Refrigerator Sales, Inc.

The refrigerator is operated by a refrigeration unit of the continuous absorption type, similar to the gas-fired type, using kerosene as fuel. There is practically no change in the unit except for the boiler, Mr. Sellman states, which has been redesigned to utilize a kerosene burner of the flameless type. The cabinet is of standard Electrolux design.

Just one model is now available, the KE-70 with 6.6-cu. ft. net capacity. An 11-ft. refrigerator is in development.

Refrigeration Distributors Are Planning To Expand Activities

Editor's Note—Another set of opinions of electric refrigeration distributors on the sales outlook in their territories for 1934 is presented in this issue, starting in the column below and continued on pages 10, 11, and 12. Letters from 42 distributors whose names are listed on page 11 of this issue were published in preceding issues of Electric Refrigeration News.

Increased Coverage Beneficial—Merriam

A. Wayne Merriam, Inc.
General Electric
Refrigerators, Ranges, Dishwashers
108 Erie Blvd., Schenectady, N. Y.
Jan. 10, 1934.

Editor:

Our experience for 1933 was a decided improvement over 1932. Perhaps one reason for this is that the utilities in our territories definitely ceased merchandising. In 1932 their plans were uncertain and their merchandising efforts lacked punch, but with their decision we were able to carry on an intensive program with our dealers and retail stores.

We increased our dealer coverage during 1933 with splendid results and our retail business showed an increase in gross volume of more than 100 per cent.

For the new year we are planning increased promotional advertising and sales budgets with the belief that our efforts will be rewarded. Certainly there has been a decided improvement in buying in our lines of merchandise during the past few months.

The best comparison of 1932 and 1933 is from July 1 on. In 1932 we experienced a steady decline to the end of the year. In 1933 our business steadily improved.

During 1933 we accepted additional appliances for sale and believe that this has been of decided benefit to us. Our market for these appliances, meaning laundry equipment, vacuum cleaners, radio, etc. is naturally to our users of refrigeration.

At the same time our business in ranges and dishwashers increased as the complete electric home theme was enlarged. We believe that our future possibilities are decidedly enhanced by handling these companion items.

We look forward to a steadily improving market for commercial refrigeration and air conditioning. New types of commercial refrigeration on the market have obsoleted the earlier designs and the public is demanding properly refrigerated foods to purchase.

When air conditioning was first announced, its value was easily recognized but its market seemed a long way off. This picture has changed decidedly during the last few months and we believe we are closer to a splendid air-conditioning market than we realize.

As for beer cooling now that repeal has definitely arrived and beer has become a stabilized business, we feel that we can look forward to a good volume in this equipment.

A. WAYNE MERRIAM,
President.

Trilling Sees Benefits In Aggressive Advertising

Trilling & Montague
N. W. Corner Seventh and Arch Sts.
Philadelphia
Jan. 19, 1934.

Editor:

We look for more sales records to be broken by leaders in the industry,

(*Continued on Page 10, Column 3*)

CORRECTED LISTINGS DUE FOR 1934 DIRECTORY

The 1934 Refrigeration Directory and Market Data Book is rapidly nearing completion and most of the companies which should be represented have submitted their listings for the new edition.

However, several companies which were included in the 1932 Directory have neglected either to send in revised listings or to signify that their 1932 listings can be repeated.

If you are a manufacturer of refrigeration machinery, parts, supplies, or accessories or of beer-cooling or air-conditioning equipment, your name should appear in the 1934 Directory.

We want the following information about your company:

1. Your company name and complete address.

2. The products which you manufacture for the refrigeration industry.

3. The trade names of your products, if any.

4. The officers of your organization who will be active during the coming year.

By sending the above information to us immediately, you can be assured of a complete listing in the 1934 Refrigeration Directory and Market Data Book.

When East Meets East

Dave Trilling (left), Norge distributor in Philadelphia, Max Krich (center), Newark Gibson wholesaler, and J. H. Burke, Leonard distributor in Boston, have a tete-a-tete at the ABC convention in Chicago.

AIR CONDITIONING

A.S.H.V.E. to Study Engineering Aspects Of Air Conditioning

(Concluded from Page 1, Column 4)

Ventilating Exposition will be held at the Grand Central Palace Feb. 5 to 8 in conjunction with the convention.

The Tuesday afternoon and Wednesday session will be entirely devoted to discussions dealing with air-conditioning, and Thursday morning will be given over to an inspection of the air conditioning systems installed in the NBC offices and British Empire building at Radio City.

Papers to be presented at the Tuesday afternoon session, which will start at 2 p. m., include the following:

"A Proving Home for Air-Conditioning Investigations," Elliott Harrington; "Low-Cost Air-Conditioning for a Small Residence," M. K. Drewry; "Comfort Cooling with Attic Ventilating Fans," Helmrich and Tuttle; "Study of Summer Cooling in the Research Residence for the Summer of 1933," Kratz and Konzo.

At the Wednesday morning session the following papers will be delivered:

"Thermodynamic Properties of Moist Air," Prof. J. A. Goff; "Study of Air Conditioning and Office Employes Efficiency," McConnell and Kagey;

"Observations of Hay-Fever Sufferers in Air-Conditioned Room and the Relationship Between the Pollen Content of Outdoor Air and Weather Conditions," Kendall and Weidner.

On Wednesday afternoon the following subjects will be discussed:

"Diurnal and Seasonal Variations in the Small-Ion Content of Outdoor and Indoor Air," Yaglou and Benjamin; "Air Conditioning in Its Relation to Human Welfare," Dr. C. A. Mills; "Engineering in the Hospital of Tomorrow," Charles F. Neergaard.

Also of interest will be the Tuesday morning session which will deal with heat radiation through windows.

Exhibitors at the show will include: Aerofin Corp., The Aerologist, Air Conditioning Industries, Inc., Air Controls, Inc., Allis-Chalmers Mfg. Co., American Artisan, American Brass Co., American Gas Association, American Gas Products Corp., American Radiator Co., American Society of Heating & Ventilating Engineers, Anderson Mfg. Co., Armstrong Machine Works, Automatic Products Co.

Baker Ice Machine Co., Inc., Barber-Colman Co., Barnes & Jones, Inc., Bell & Gossett Co., Blom-Gamarra Humidifier, Breuer Electric Mfg. Co., Bristol Co., Brooklyn Borough Gas Co., Brooklyn Union Gas Co., Bryant Heater Co., Burnham Boiler Corp.

Caloroil Burner Corp., Campbell Metal Window Corp., Carrier Engineering Corp., Century Electric Co., Century Engineering Corp., W. M. Chace Valve Co., Chase Brass & Copper Co., Inc., Cleveland Heater Co., Comfortaire Co., Consolidated Gas Co. of N. Y., Coppus Engineering Corp., Crane Co.

Detroit Lubricator Co., Dole Valve Co., Domestic Engineering Co., Eagle-Picher Lead Co., Economy Pumping Machinery Co., Emerson Electric Mfg. Co., Excelso Products Corp.

Fairbanks Co., Fairfield Oil Heating Co., Inc., Fitzgibbons Boiler Co., Fox Furnace Co., Frick Co., Julien P. Friez & Sons, Inc., Frigidaire Corp., Fuel Oil Journal.

General Electric Co., General Gas Light Co., Hart & Cooley Mfg. Co., Heating Journals, Inc., Heating, Piping & Air Conditioning, Heating & Ventilating, Heil Co., E. Vernon Hill Co., A. F. Hinrichsen, Inc., Hoffman Specialty Co., Inc., Holtzer-Cabot Electric Co., Hotstream Heater Co.

Independent Register & Mfg. Co., Iron Fireman Mfg. Co., Jenkins Bros., Jones & Laughlin Steel Corp.

Kainer & Co., John G. Kelley, Inc., Kewanee Boiler Corp., Knickerbocker Ice Co., L. O. Koven & Brother, Inc., Liquidometer Corp.

McDonnell & Miller, Malleable Iron Fittings Co., May Oil Burner Corp., Mercoid Corp., Minneapolis-Honeywell Regulator Co., Modine Mfg. Co., Monarch Mfg. Works, Inc., J. W. Moore Valve Corp., Motometer Gauge & Equipment Corp., Motorstoker Corp., L. J. Mueller Furnace Co.

New York & Richmond Gas Co., Niagara Blower Co., Nu-Type Submerged Water Heater Corp., Oil Heat, Orr & Sembower, Inc., Owens-Illinois Glass Co.

Parker Appliance Co., Penn Electric Switch Co., Petroleum Heat & Power Co., Plumbing & Heating Trade Journal.

Republic Steel Corp., Reynolds Metals, Inc., J. E. Rhoads & Sons, Richardson & Boynton Co., Richmond Radiator Co., W. A. Russell Co.

Sarco Co., Inc., Scott-Newcomb, Inc., Silent Glow Oil Burner Corp., Skidmore Corp., Spencer Heater Co., Steel & Tubes, Inc., Strang Air Conditioning Corp.

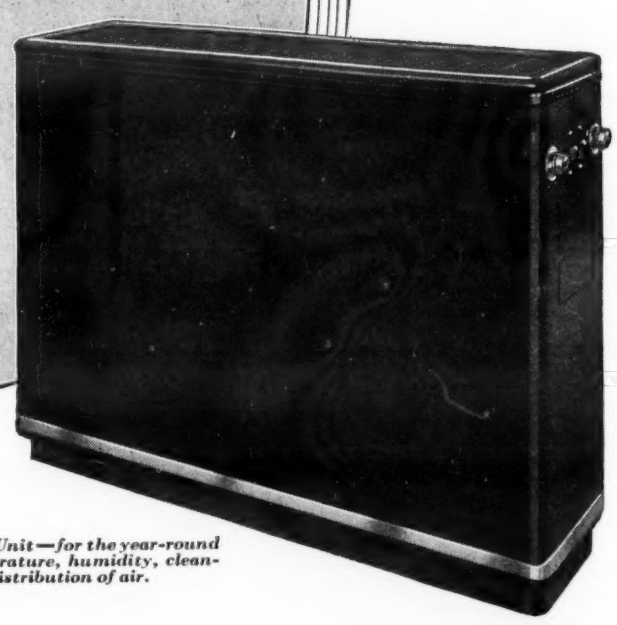
Taco Heaters, Inc., Taylor Instrument Companies, Thatcher Co., H. A. Thrush & Co., Tuttle & Bailey, Inc., Uni-Flo Grille Corp., United States Radiator Corp.

Vinco Co., Inc., Volcano Burner Corp., Watts Regulator Co., Warren Webster & Co., Waterloo Register Co., Weil-McLain Co., Westinghouse Electric & Mfg. Co., Whitty Mfg. Co., Inc., L. J. Wing Mfg. Co., Wickwire Spencer Steel Co., Wizard Oil Burner Co., Wood Hydraulic Hoist & Body Co.

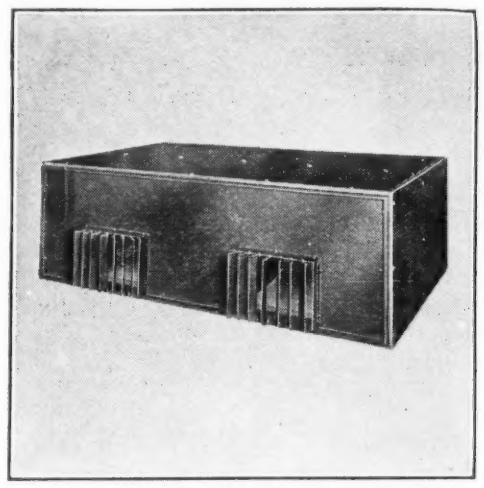
York Ice Machinery Co., York Oil Burner Co., Inc., Young Radiator Co., Youngstown Sheet & Tube Co.

for the Business Man

WHO IS READY TO SHARE IN THE PROFITS OF THE FASTEST-GROWING NEW GIANT INDUSTRY



Floor-Type Comfort Unit—for the year-round control of the temperature, humidity, cleanliness, volume, and distribution of air.

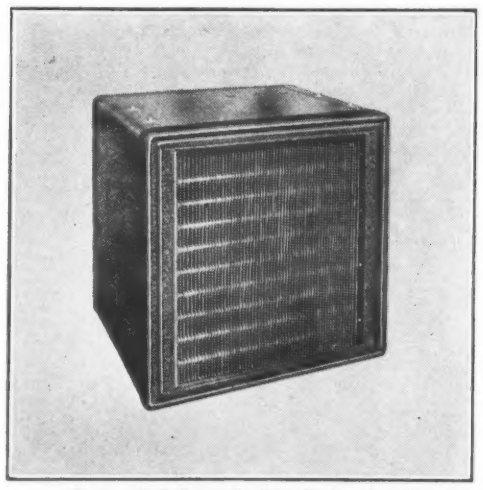


Suspended-Type Comfort Unit—for all-season, heavy-duty Air Conditioning. To be suspended from the ceiling or in wall ducts.

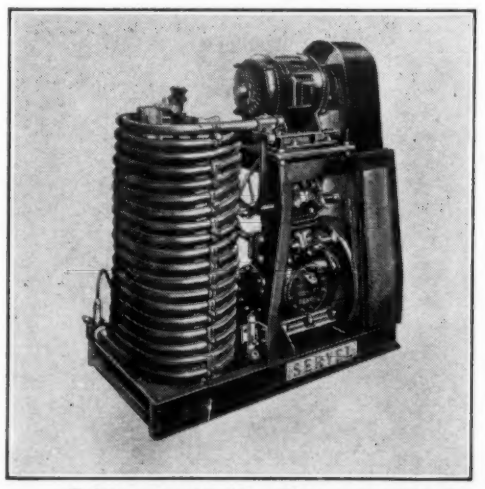
Self-Contained Cooling Unit—for Summer use. This "package job" is readily portable, and can be installed anywhere with ease.

An Opportunity TO DISTRIBUTE A COMPLETE LINE OF

AIR CONDITIONING*



Suspended-Type Cooling Unit—for Summer use. Compact, efficient, powerful. To be suspended from the ceiling or in wall ducts.



Refrigerating Machine Unit—one of the big multiple-ton models developed for Air Conditioning and heavy-duty refrigeration.

You've watched Air Conditioning . . . watched it grow, swiftly, amazingly, into an industry of vast proportions.

But you've waited until you could get into Air Conditioning with a dominant line of equipment . . . a line that would match the potentialities of a rich market.

Today the opportunity you've waited for is here. Servel has brought Air Conditioning out of the "horse-and-buggy" stage. For 1934, it has perfected a line of modern equipment . . . so complete that it answers every Air Conditioning need . . . so advanced that you can sell it promptly and profitably.

Servel brings you floor and suspension-type comfort units for year-round Air Conditioning, self-contained room coolers, massive 7-ton and 10-ton refrigerating machines for heavy-duty installations . . . all based on the rich experience of a refrigeration pioneer . . . all as outstanding as Servel Electric Refrigeration and Electrolux Gas Refrigerators.

Add to this Air Conditioning line, if you like, the world's foremost Commercial Refrigeration equipment . . . machine units for every capacity . . . triple-controlled Humidraft chilling units . . . self-contained milk coolers . . . water coolers . . . beer bars.

NRA MEMBER U.S. WE DO OUR PART

Volume and profits await the business man who gets into Air Conditioning . . . today . . . with the line that is quickly taking the lead. Distributor and dealer franchises are now being arranged. Wire or write immediately for details of the powerful advertising and sales program. Servel Sales, Inc., Evansville, Ind.

SERVEL

Air Conditioning

AND COMMERCIAL REFRIGERATION

*True Air Conditioning performs many functions . . . cools and dehumidifies in Summer . . . heats and humidifies in Winter . . . circulates, filters, and freshens the year round. *Servel Air Conditioning is true, complete Air Conditioning.*

Frigidairmen Confer On Air Conditioning

DAYTON—Air conditioning and its relation to health and industry are the key topics under discussion here in a 10-day conference being attended by 150 air-conditioning sales managers and engineers from almost every state in the country.

The conference is sponsored by the Frigidaire Sales Corp., and is the second held, the one last year in February being the first of its kind.

Sessions of the school opened Jan. 29 at the Engineers' club with addresses of welcome by J. J. Nance, manager of the air-conditioning division, and J. C. Chambers, sales manager of the air-conditioning division.

The men attending the conference represent Frigidaire branch offices, distributorships, utilities, and heating and ventilating concerns throughout the nation.

"It's not *only* the air we breathe in our homes that we are interested in," Mr. Nance said. "It's the air in factories, scientific laboratories, vaults, hospitals, restaurants, theaters, offices, and scores of other places.

"Industrial possibilities in the work are also important. Certain cereal products, for instance, must be made under low humidity conditions. So we condition the air, bring the relative humidity—or dampness—down below that found in the air in Death Valley, a desert country.

"Manufacture of chewing gum has been simplified through use of air conditioning. Vaults where postage stamps are stored have been air conditioned to eliminate loss through stamps becoming gummy and sticking together. Chickens kept in air-conditioned houses increase in weight, lay more eggs. Candy companies use air conditioning in order properly to make certain candies. The uses are endless."

The sessions deal with all phases of air conditioning—markets and sales, temperature, humidity, refrigeration, air movement and ventilation, air-cleaning unit and central-type systems, year-round air conditioning with heating and cooling, humidification and dehumidification, and other allied subjects.

60 G-E Climateers Win Bermuda Cruise

NEW YORK CITY—Having broken their quotas in an 18-week competitive sales campaign, 60 salesmen of the General Electric air-conditioning department sailed Jan. 20 for Bermuda on a holiday trip of six and a half days. Contest in which the men won the trip opened last August and closed on Dec. 30.

Jeweled insignia of the G-E Climateers' Club were presented to the salesmen at a banquet in Hotel Bermudiana, Bermuda, on the evening of Jan. 23.

The trip was made from New York City on the *Monarch of Bermuda,* flagship of the Furness fleet. The salesmen were accompanied by several officials of the department, including S. T. Whitbeck, E. J. Opal, W. A. Bowe, W. A. Scherff, and A. C. Roy.

Century Introduces Cabinet Humidifier

CEDAR RAPIDS, Iowa—A new cabinet humidifier has been introduced by the Century Engineering Corp., manufacturer of oil burners.

The unit will be marketed through dealers and distributors, according to M. D. McWilliams, sales manager. The standard model, which includes cord plug and toggle-switch, lists at $79.50 and the automatic model at $109.50.

Enclosed in a cabinet of American walnut, with overall dimensions of 28x24½x15 in., the humidifier has a capacity of 16,500 cu. ft. of washed air per hour.

The cabinet encloses a rustproof water reservoir in which is a series of 29 metal discs, revolved slowly by the motor (110 volt, 60 cycles) of a fan which also blows air over the discs. These discs are partly submerged so that they pick up water.

The evaporating surface area is approximately 40 sq. ft. with a capacity of six gal. of water per 24 hours. The rotation of the discs and the fan is so slow that the operation is noiseless.

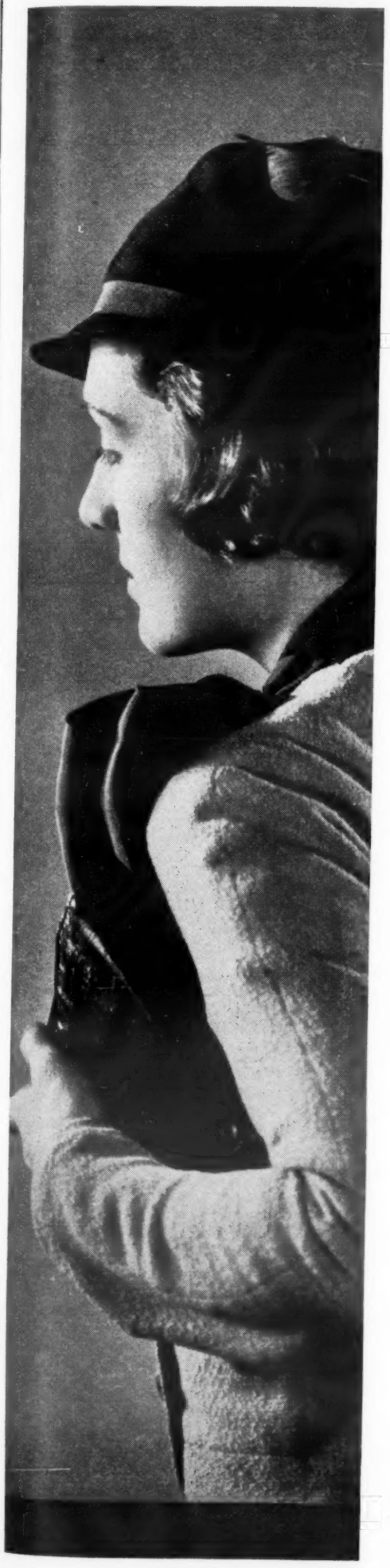
Current consumption is estimated at 50 watts. The motor drive is a rubber belt from motor to pulley on discs.

Botelho Studies Baker Air Conditioning Systems

OMAHA—Nanto J. Botelho of the engineering staff of the Rio de Janeiro, Brazil, distributor for Baker Ice Machine Co. recently visited the Baker factory here to study Baker manufacturing methods.

Senor Botelho has been in the United States for the past 18 months to study the latest developments in refrigeration and air conditioning.

"Just as good" *is not good enough to get the order*



Salesmen may talk as forcibly as they wish about other electric refrigerators being "just as good" as Frigidaire. But people who go out to buy with their minds made up in advance are not easily convinced.

Of course they may promise to think it over or to come back later. But they don't. They know what they want and they insist upon getting it.

That's why there are a million more Frigidaires in use than any other electric refrigerator. That's why the dealer who sells Frigidaire is making easier sales, more sales, *and more money.*

In other words, it's a lot more profitable to sell Frigidaire than to attempt to switch your prospects to a product they aren't sure about.

If you are not already selling Frigidaire it will pay you to get our complete proposition for 1934.

Frigidaire

A General Motors Value

Norge Puts Style in Standard Models

(*Continued from Page 1, Column 4*)

of the general economic situation and their significance to the electric refrigeration industry today.

"The year 1934 presents the greatest opportunity the industry has ever seen," said Mr. Knapp. "International industrial conditions are on the upgrade. Chapin Hoskins, editor of *Forbes Magazine* predicts a 30 per cent business pickup by April.

"For several years before March 1 of 1933, 80 per cent of the headlines in the *Chicago Tribune* were pessimistic as regarded the business picture. Since March 1, 80 per cent have been optimistic. Help-wanted ads are increasing.

"Today, there are five million obsolete vacuum cleaners in this country, eight million obsolete radios, 10 million obsolete stoves and ranges, and four million obsolete washing machines. More automobiles were junked last year than were produced, and right now there are in use eight million cars which are more than seven years old."

Then this: "Your biggest job this year does not lie in selling against other companies in the electric refrigeration industry. Your hardest job is that of being the *first* to reach the people who have dollars they *want* to spend on any *one* of a number of things.

"Our own survey shows that 32.2 per cent of non-owners in this country will buy electric refrigerators in 1934. The industry must sell another five million refrigerators before we reach the present washer saturation point."

Then came presentation of Norge's 1934 standard line, some features of which were described in the Nov. 8, 1933 issue of the NEWS in a cover of the annual Norge distributor preview of new models.

Three models comprise the standard line, newest feature of which is its styling. The cabinet has the straight lines and curved edges and top which marked the company's deluxe line in 1933. Front of the cabinet is paneled, and legs (in either black or white) are short and stocky.

Largest of this line is model S-71, priced at $179.50 (installed, including tax, in central zone). It has 7.1-cu. ft. net storage capacity, and five shelves with a total area of 14.1 sq. ft. Its four trays make 96 ice cubes at a freezing. Exterior is lacquer.

Second model is S-55, a 5.5-cu. ft. refrigerator with a price of $154.50. Its three shelves have an area of 11 sq. ft., and it has three ice trays making 72 cubes. Lacquer is also used on this model's exterior.

Smallest of the line is model S-47, with 4.7 cu. ft. of storage space and a price of $129.50. Forty-eight cubes are supplied by its two trays, and its three shelves have a total area of 9.2 sq. ft. This is another lacquer model.

Appearance of this year's deluxe line has been only slightly modified. The cabinets have the same streamlined appearance and deeply rounded edges and tops, but door corners have been more deeply rounded, and the food chamber door and compressor compartment door have been brought closer together. Improved "lazy latches" have been placed on the doors, too.

Models L-54 and P-54 differ only in exterior finish—the L model being lacquer, the P model, porcelain. Their net food storage capacity is 5.4 cu. ft., their three shelves have an 11.1 sq. ft. area. Seventy-two cubes are made in their two trays. Price of the L-54 is $174.50, of the P-54, $194.50. Accessories: hydrator, egg basket, and butter and cheese rack.

Next are models L-67 and P-67, with a storage capacity of 6.7 cu. ft. They have six shelves with a total area of 13.8 sq. ft., and three trays (one rubber and one of the deep type) with a capacity of 96 cubes. L-67 sells for $209.50, P-67 for $229.50. Their features are: hydrator, egg basket, butter and cheese rack, and adjustable shelves.

Third model is the all-porcelain P-78, priced at $274.50. It has 7.8 cu. ft. of storage space, and six shelves with an area of 15.4 sq. ft. One shelf is adjustable and one partly removable to accommodate large objects and tall bottles. There are three trays — one metal, one rubber, one deep tray—making 96 cubes. Hydrator, egg basket, and dairy product rack are included in this model.

Porcelain inside and out is model P-91, selling for $399.50. It has a storage capacity of 9.08 cu. ft., and its six shelves have a 19.27-sq. ft. area. Its trays are similar to those in the 67 and 78 models. A hydrator, egg basket, butter and cheese rack, and a second vegetable and fruit container are standard in this model.

Largest of the deluxe line is model P-110, having an 11.05-cu. ft. net capacity, and six shelves with an area of 24.6 sq. ft. Its price is $389.50. Eight ice trays make 168 cubes at a freezing. This model has the same accessories as model P-91, and is all-porcelain.

No basic changes have been made in the Norge rollator this year, but a number of refinements have been incorporated in it, said Ira H. Reindel, the company's chief engineer.

Describing principal engineering changes made, Mr. Reindel said that in all models the evaporator has the header offset with respect to the tubes, to accommodate a cold control change made to permit suspension of the evaporator in the center of the cabinet.

The evaporator has a porcelain shield spaced from the evaporator header above its door, to provide space for mounting of the cold control and connecting lines. Tubes are exposed, but the header is concealed by a side baffle on deluxe models.

A new gasket is being used on the evaporator sleeve, and the evaporator door has been so redesigned that it now has no springs, but is equipped with a clip for holding the door tightly against the sleeve gasket.

Evaporator shelves have been stiffened by flanges around perforations in its surface. On the sides of each shelf are troughs to carry away any water which might be spilled from trays. The perforations in each shelf make a material reduction in the amount of surface to which trays can stick.

Rolled edges are used on metal ice trays, capacity of which has been increased 14 per cent—each tray now having space for 24 cubes instead of 21. Feature of some models is a rubber tray with a chromium-plated brass bar at the bottom on either side. The bars stiffen the tray and make it easier to place in the evaporator when filled with water.

A diamond boring operation in the counterbore of the compressor body is being used to provide for improved functioning of the seal. The condenser has been lengthened and carried across the entire width of the baseboard to make possible freer circulation of air through it.

Receiver is located in a horizontal position above the condenser instead of in a vertical position as in the '33 models. Its capacity has not been changed, and still permits pumping the entire charge within it when desired.

Two fans are being used on the condensing unit instead of one, to reduce air noise without lessening the amount of air passing over the condenser.

Mr. Knapp told the wholesale salesmen that Betty Appel has been appointed director of the company's home economics division, that home service demonstrations will form an important part in Norge promotional drives this year, and added that other economists will be added to the department in such numbers as are required by distributors.

Reminding the men that home service is, in reality, merely a means of demonstrating a product's utility, the vice president said, "Women are more interested in the use of a thing than in its mechanics. They're more intrigued by pictures than by words.

"Salesmen don't know enough about how to use what they sell. We've got to learn how to use our product to attract women buyers. And they're important. A few years ago, men bought 55 per cent of the goods sold. Today, women buy between 80 and 90 per cent of it."

Harry Whittingham, assistant sales manager of the company, gave a detailed report on changes made in Norge's rollator plant in Detroit, and at the cabinet and companion-product plant in Muskegon, to make possible improvements and faster production of merchandise.

Seventy-five thousand dollars, he said, have been spent for new equipment in the compressor plant. Approximately $70,000 has been invested in new machinery in the cabinet plant, and $150,000 has been expended for equipment to be used in manufacture of products other than domestic refrigerators.

Mr. Knapp again took the platform, following Mr. Whittingham's talk, to show charts depicting findings in the survey made among housewives and refrigeration dealers late last year by Norge to determine how refrigerators are being most effectively sold, and what the prospects for 1934 are.

Following presentation of the charts, he gave voice to his own conclusions on the survey's results. Here are a few of them:

"Your greatest opportunity in 1934 is in the small towns. Approximately 34.4 per cent of the non-owners in small towns will buy, or consider buying, electric refrigerators in 1934.

"Department stores are about through selling cat-and-dog refrigerators. They're going to get on the bandwagon, and handle reliable refrigerators from now on.

"A good merchant wants his volume flow fairly equalized between store sales and outside selling. He will have 45 per cent store sales, 45 per cent outside sales, and the rest, sales of some other kind (direct mail, etc.). A good dealer should have at least four salesmen. When he gets five, he needs a supervisor."

Although ill with a cold which compelled him to leave Muskegon for his home in Detroit in the late afternoon of the convention's first day, James A. Sterling, advertising and sales promotion manager of Norge, appeared before the wholesale men to tell them what the company plans for 1934 in sales promotional activities.

"This year," he said, "the factory will spend more than one million dollars on advertising, and one-quarter of a million dollars on sales promotion. And if dealers and distributors meet sales expectations, and follow our cooperative advertising plan, there will be another million dollars available for advertising."

He explained that one sales-building project already completed is issuance of a "year-book" to every Norge distributor, presenting complete breakdowns and analyses of that distributor's territory from the standpoint of past performance and sales expectations.

Each book contains recommendations for coping with problems in that particular territory, and shows what activities should be planned and pushed in various seasons of the year.

While these books will advise distributors on how to direct their dealers through the entire year, the factory will aid in this work by furnishing dealers and retail salesmen with instructions.

At the start of each of the four seasons of the year, the factory will supply all retail men with a manual giving specific recommendations for most successful selling appeals and methods during that particular period, on every Norge product. Mr. Sterling believes this plan will do much to level dealers' volume curves.

Now available for use by the Norge

(*Concluded on Page 5, Column 1*)

Easy Pickin's

Detroit's pretty Dorothy Neddermeyer shows how a twist of the wrist loosens cubes in the rubber ice tray of the 1934 deluxe Norge model.

The *Better*

Air Conditioning

Now Available To All!

AUDITORIUM CONDITIONING CORPORATION, appreciating the full acceptance of both Unit type and Central Station type of Air Conditioning by the public, and realizing that the demand for comfort in hot weather is becoming greater and greater, is carrying further its policy of making it possible for all to enjoy the benefits of its improved systems.

The UNIT TYPES OF AIR CONDITIONERS embodying the same exclusive features which have resulted in low first cost, economical operation and real air conditioning, are being manufactured by a number of the largest makers of this type of equipment.

These manufacturers are licensed by Auditorium Conditioning Corporation and pay a royalty to Auditorium for such a license.

Some of these units use patented automatic controls which govern the characteristics of air discharged so that regardless of outside conditions the room will be comfortable.

Air Conditioning similar to that you have favorably experienced in many buildings using Auditorium patented Central Station type of systems is available in Units of capacities suitable for your home or office.

These Units are for sale by the manufacturers and many dealers.

When you buy or install an Air Conditioning Unit, the license plate of Auditorium Conditioning Corporation is your assurance that the advantages noted above are built into the Unit and that you are getting a Unit which will provide healthful comfort in disagreeable weather.

For the increasing demand for Central Station type of Systems, Auditorium is appointing Heating and Ventilating Contractors as Special Agents.

These Special Agents are authorized to sell licenses and take the complete contract for a Central Station type of Air Conditioning System.

This type of System is the same as installed in the new Government buildings in Washington, and a large majority of the noted buildings throughout the country, and utilizes one or more of the many Auditorium patents.

Like the Units using these same inventions, these systems are comparatively low in first cost, most economical in operation and furnish ideal comfort conditions for the occupants of buildings where they are installed.

AUDITORIUM CONDITIONING CORP.

New York Office - 17 EAST 42nd STREET

NEW YORK, N. Y.

An Ideal Coil Service Set-up

KNOWING that you can get Coils *quickly* often speeds sales. LARKIN *Original* 100% Vertical Surface Aluminum Plate Coils can be supplied to practically every point East of the Rockies in from 12 to 24 hours.

At our Atlanta, Brooklyn and Chicago Warehouses we maintain stocks of 124 Standard Models and Sizes.

Distributors and dealers can make arrangements for this convenient service.

NRA MEMBER U.S. WE DO OUR PART

LARKIN

Refrigerating Corporation

Originator and Manufacturers

ATLANTA, GA., U.S.A.

WAREHOUSES

Brooklyn - Chicago

100% VERTICAL SURFACE

U.S. PATENT No. 1,776,235.

LARKIN COILS

Companion Products Are Shown by Norge

(*Concluded from Page 4, Column 5*)

selling organization are 114 different pieces of promotional material on the company's several products, he said.

For 20 minutes or so, attention of the wholesale men turned to advertising, as A. W. Seiler, executive vice president of Cramer-Krasselt Co. (Norge agency), outlined Norge plans in that field for 1934.

First fact brought out was that Norge plans to "bunch" its *national* advertising in the first six months of the year. Space will be used by the factory in the *Saturday Evening Post* and *Good Housekeeping*. In addition, the company will conduct a campaign in key-city newspapers throughout the country.

A third advertising drive will be that sponsored cooperatively in key city papers by the factory and its distributors, and handled by the latter. And a fourth will be local advertising, paid for primarily by dealers, with the help of their respective distributors.

Economy Keynote

Keynote of Norge copy will be economy, said Mr. Seiler. Second greatest emphasis will be placed on the rollator, with other points to be spotted in this order: convenience features, beauty, year-'round necessity for refrigeration, user satisfaction, and the "see the Norge before you buy" theme.

Mr. Seiler's address, final of the first day's sessions, closed the wholesale men's study of general merchandising plans for 1934. So, in concluding the meeting, Mr. Knapp gave them five objectives for 1934—objectives he believes possible to achieve with the use of information given at the conference. Here they are:

1. Complete coverage of small towns in every man's territory. 2. A 50 per cent increase in quota-breaking dealers. 3. A 50 per cent increase in dealer coverage. 4. A minimum of four salesmen for every dealer. 5. A minimum of six sales per retail salesman per month the year around.

Claude Parker, who conceived the idea of the Broilator stove before it was taken over by Norge, and is now doing field sales and promotional work on the product, demonstrated proper use and operation of the appliance to the wholesale men.

Switching to another companion product, Mr. Knapp said that "Norge will enter the washing machine field in earnest this year." The company will not, however, bring out its two styled washer models (first shown to distributors in November) until later in the year.

Electric Washer Plans

Dayton Young, sales manager of the washer division, then showed the complete line—including the styled models which are being witheld for the present (described in the Nov. 15 issue of ELECTRIC REFRIGERATION NEWS).

Two washers are ready for immediate delivery. One is an Economaid model similar to the one made last year, while the other is like the first except that it has a styled, massive wringer with an automatic drainboard release extending along the entire wringer top.

Harry Newcomb, commercial sales manager of the company, next introduced Norge's new commercial units to the wholesale men (described in the Nov. 15 issue), and said that first deliveries will be made in about 60 days.

Mr. Newcomb also talked on winter air-conditioning, and outlined sales possibilities of the company's Aerolator which cleans, humidifies, and circulates the air.

Thorough training of service departments in all Norge dealerships is one of the company's 1934 objectives, said Harry Spencer, national service manager, when he addressed the wholesale men.

Plans are now being made, he stated, for a series of three-day meetings in key cities, in which dealer service men will be given a course of training by factory men. Text books have been prepared for these meetings, as have new service manuals covering all models from 1930 to the present line.

Mr. Spencer emphasized the point that retail salesmen should make it a regular part of their selling job to explain how a refrigerator should be installed, and how a housewife should use and take care of her refrigerator.

Said he: "A refrigerator isn't completely sold until the salesman has explained, after the contract is signed, how it should be taken care of."

William Crawford, vice president of the Commercial Credit Co., explained details of the wholesale and retail installment plan which Norge distributors and dealers will use this year. Then, switching to the subject of "price" selling in the refrigeration industry, he said:

"It might be a good thing to keep in mind, when selling on a price basis, that price is the amount of money we must pay to gain title; but cost is price, plus expense, less savings, over the life of the product."

On Wednesday—last day of the convention—the men spent both morning and afternoon touring the Norge factory here.

Guardian of a precious life

The chief purpose of an electric refrigerator is to safely keep food. A single failure to do this job well endangers health and precious lives. Let your refrigerator fall down on its job just once and you have made an enemy.

Aside from the obligation to your customer's confidence, the importance of a growing list of satisfied users can be measured only in dollars and cents.

Some manufacturers are aware of this double obligation - - to the customer and to themselves - - and are doing everything possible to assure unbroken service to the user. For one thing, they are using Dry-Zero insulation to give the utmost efficiency for **the whole life** of the refrigerator.

That's one thing they don't have to worry about.

Dry-Zero Corporation, Merchandise Mart, Chicago, Illinois. Canadian Office, 687 Broadview Avenue, Toronto, Ontario.

What Is Dry-Zero?

A Waterproof Tropical Fibre

In certain tropical areas, notably Java and the South Sea Islands, there is a species of tree called Ceiba Aeschulifolia that is very old botanically. It has survived centuries of unfavorable growth conditions because of clever provisions of Mother Nature's to insure propagation far and wide. In the giant pods which grow upon this tree are developed the small seeds to which are attached fine, white fibres. These fibres are so light that they carry the seeds (when the pods break open) on the wings of the wind for great distances. And to withstand the humid condition of the tropics, Nature has waterproofed them, each fibre being a sealed tube unaffected by moisture, so that even in tropical showers they sail on with their precious seeds over wide areas.

Fibres Grained into Dry-Zero

It is these natural qualities that have made the Ceiba fibre so remarkable for refrigeration insulation. By a patented process of "graining" done wholly by air, the fibres are all laid uniformly across the line of heat flow, 2,000 to the inch, each providing a block to the passage of heat and adding almost 40% to their natural heat insulating value. A batt is thus formed that is the last word in the advance of scientific insulation.

High Insulating Efficiency

For use in electric refrigerators, the Dry-Zero batt is enclosed in the most advanced type of moisture-proof container made to fit exactly the walls, top and bottom of a refrigerator. In place, they provide permanently efficient insulation far superior to any other commercially available material.

Any refrigerator insulated with Dry-Zero will stand any scientific test and show a remarkable saving in operating costs even in the first two or three years, often amounting to as much as 60%. Dry-Zero assures economical operation for the life of the refrigerator.

NRA MEMBER U.S. WE DO OUR PART

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN **DRY·ZERO**

BY GEORGE F. TAUBENECK - - -

Notes on the Toppers Bermuda Trip!

FRED BOLLMEYER, who is WALTER DAILY's astute assistant in charge of publicity, was on the job early in New York—long before the gang came rolling in—and was plenty ready for a sea-trip rest cure.

Among the stunts Fred arranged was a shore-to-ship broadcast over station WINS Tuesday afternoon. From Newark WALTER LANDMESSER, commercial manager, REX COLE, New York distributor, and Col. ROSCOE TURNER, national champion speed flyer, broadcast *bon voyage* messages to the Toppers aboard.

Almost a hundred Toppers gathered in the lounge just before dinner to hear the broadcast.

Did you ever hear of anyone, beside the famous Jimmy of Hollywood, named Cagney?

Well, there is one, and he was famous long before Jimmy gained undying cinematic laurels by heaving a pineapple at Mae Clarke. He is H. L. CAGNEY, and he is a member of the R. Cooper Jr. organization.

Mr. Cagney worked alongside dynamitic promoters HARRY LEAVER and FRED HAZZARD, and with CARL JOHNSON and HOWARD DENNEDY in the early days of Servel. He was with R. E. DENSMORE at Kelvinator (Fort St. plant days). He went with Densmore to Norge. Now he's with G-E. And what tales he can tell — about JOHN KNAPP as a purchasing agent, about Leaver's extravagance, and so on far into the night.

L. D. PEPPER, JR., Greenwood, Miss., Topper (third year in succession) flew from his Mississippi home to Mineola Field, L. I., in 17 hours and 10 minutes to make the trip.

Mr. Pepper is an accomplished pilot, and is in the air much of the time he isn't selling G-E refrigerators.

Topper and Mrs. MANDEL SEGAL of Philadelphia are celebrating their twenty-fifth wedding anniversary (silver) this year, and considered the Bermuda trip another honeymoon.

There were, incidentally, six honeymoon couples aboard the S. S. *Queen of Bermuda* going down from New York. The Toppers, of course, helped them out all they could.

JOHN CONVERY of Philadelphia, E. S. RICHARDSON of Dallas, JOE MALONEY of Boston, W. L. BURTON of St. Louis, and PAUL HICHBORN of New York, because of their records and the suggestions they turned in to the Salesmanager's Club, were awarded trips to Bermuda. The last two named did not join the party, however.

LEHMAN WOOD of Charlotte, N. C., WILL I. WILT of Dallas, E. HAMILTON CAMPBELL of New York, and DICK EVANS of Pittsburgh came along as meritorious sales promotion managers.

GEORGE PIERCE of Boston was adjudged leading commercial manager of the nation, and earned a trip.

A high percentage of all the Toppers who made the Bermuda trip two years ago, according to P. B. ZIMMERMAN, were back again on the 1934 trip—either as Toppers or as executives.

Mr. Zimmerman thinks that the large number of 1932 Toppers who are now functioning in executive capacities with the various distributors is indeed significant. So do we.

"HEINIE" GROW presented the new Toppers pins to those who have been Toppers more than once at a little ceremony Tuesday night on shipboard.

Five Toppers won diamond-and-pearl studded pins for being five-year members: Miss Jennie Payne of Waterbury, Conn., George D. Hunter of Roanoke, Va., Frank E. Dealey of Holyoke, Mass., F. J. Hopperton of Cleveland, and Gustave W. Zercher of Hartford, Conn.

Third-year Toppers included P. N. Logan of Philadelphia, S. W. Doty of Chicago (who has never had a chargeback since he started selling General Electrics), Harold Eldridge of Princeton, N. J., Ralph Bishop of Nyack, N. J., L. D. Pepper, Jr., of Greenwood, Miss., Mrs. Mathilde Baldwin of Newark, Ralph Gibson of New York City, R. L. Weinman of Chicago, G. O. Hunt of Chicago, F. C. Newman of New York, L. H. Hart of Tenafly, N. J., D. D. McWinn of Chicago, George Conn of Philadelphia, K. W. Nott of Boston, C. A. Norris of Lynn, Mass., L. B. Holt of Schenectady, H. J. Preston, Jr., of Atlantic City, J. E. Stokes of Schenectady, E. C. Herbert of New York, R. W. Thompson of New York, Joseph Wills, Jr., of Philadelphia, H. M. Geisman of Chicago, R. B. Fisher of Indianapolis, Mandel Segal of Philadelphia, W. N. Floyd of Atlanta, Ga., L. J. Barron of Chicago, and P. W. Cummings of New York.

Four-year Toppers included Mrs. Albina Zavis of New York City, J. R. Bradley of Wilmington, Del., William Aaronstein of New York City, D. W. Cooper of Boston (he was also a Topper when he worked in Palm Beach), E. E. Noell of Chicago, A. G. Whitmer of Chicago, L. S. Doherty of Baton Rouge, La., A. H. Hayward of Dorchester, Mass., C. S. Witherspoon of New York, C. R. Davis of Cleveland, and G. W. Cabell of Washington, D. C., J. G. Ruff of Newark, P. C. Meyer of New York, E. P. Lull of New York, and Aaron S. Kosser of Cleveland.

The symbol on the Toppers' pin now is the Symbol of Electric Service, which appears atop the General Electric Institute in Nela Park. Previous pins carried a Monitor Top symbol.

WALTER DAILY sleuthed around until he discovered that all the electrical equipment on the boat was General Electric, and yet none of it had been made by his company.

How come? Simply this: It was all manufactured by General Electric, Ltd., of Great Britain, which has no relation to or connection with the General Electric Co. of the U. S. A. or to the International General Electric Co.

The English relative of our General Electric Co. is the British-Thompson-Houston Co. Monitor Top refrigerators in England do not bear the G-E monogram; rather, they wear a B-T-H emblem. In France they're called "Frigico" refrigerators.

G-E refrigerators (U. S. make) are sold in Bermuda by ROBERT D. AITKEN, who maintains a neat electrical shop in Hamilton.

Mr. Aitken has some 800 Monitor Tops installed in Bermuda, of which 150 were sold in 1933.

The Electric Light Co. (the local public utility) displays and sells Westinghouse refrigerators. Incidentally, they have been selling Moffatt's electric stoves for the last 10 years—and still sell a few every year.

Many of the refrigerators we saw in service around Bermuda were Frigidaires, sold by the Bermuda Trading Co. of Hamilton.

One evening we took the little Bermuda motor railcar over to St. George's.

We poked around the lazy old town a little longer than necessary, and missed our return car—forcing a two-hour wait in the dead of night.

There was just one decent spot open at that time, a confectionery down near the station. Inside were nine young gentlemen of color, all members of a dance band. They were raptly engaged in twisting the dials of a Stewart-Warner radio.

If this be free advertising, let Messrs. CHARLEY OTIS and FRED HITER make the most of it. The fact, remains, however, that that radio brought in American stations the writer has never been able to get in Detroit on any of four different makes of radios to which he has access.

The colored band boys were after American colored bands and entertainers. With a Radio Guide timetable spread out on a table, they located stations and hours on which colored bands were broadcasting that night, and proceeded to tune 'em in.

They got CAB CALLOWAY from New York, BLANCHE CALLOWAY from Philadelphia, McKINNEY'S Cotton Pickers from Detroit, EARL HINES from Chicago, FLETCHER HENDERSON from Louisville, GENE COY from Denver, LOUIS ARMSTRONG from Los Angeles, and somebody's Ramblers from St. Paul.

And in between we heard snatches of RUDY VALLEE's program, of MORTON DOWNEY from Kansas City, of a pipe organ from POWEL CROSLEY's WLW in Cincinnati, and TED FIORITO from San Francisco.

Reception was excellent, and there was volume in reserve. Considering the fact that Bermuda is a two-day's sail out into the Atlantic Ocean, we'd say that the Stewart-Warner was a good performer.

Our roommate, both on ship and in the Bermudiana hotel, was pleasant DICK EVANS, sales promotion manager for the Ochiltree Electric Co. of Pittsburgh.

Dick had a Bell & Howell movie camera, and together we scoured the island in search of interesting camera "shots."

While Dick was still a Columbia university student he joined PAUL WHITEMAN's *Leviathan* orchestra, which is where he got his first practical lessons in showmanship and publicity.

Only trouble with Dick as a roommate was that he was too popular. Always there was a friend or two in the room, with others popping in and out continually. During the first day out Dick suffered from *mal de mer*, and we'll swear half the ship's passengers walked him 'round and 'round the deck, solicitiously, in relays.

ART ("Pants") SCAIFE and M. D. ("Heinie") GROW and their two young and pretty wives made up a regular foursome.

Scaife and Grow attended to all the details of getting the big party to and from Bermuda. They had, as you can readily imagine, their hands full.

Yet, with the exception of the night life, they didn't miss a trick on the whole trip. They took in all the sights, and did their quota of swimming, cycling, and carriageing.

Being the youngest of the married couples in the G-E party did not mean, however, that they were latest-stayer-uppers. All the others outlasted them.

PHIL HARRISON, who lives his crowded life with extraordinary gusto and elan, was squiring no less than four women around.

In addition to his perfectly grand wife (most beautiful women aren't Good Sports—they're too afraid of jarring their coiffeurs or complexions to Enter Into Things; the knockout Mrs. Harrison, though, steps right up to the plate and takes a healthy cut at the old apple), Phil played host to a sister-in-law, to a woman Topper from his organization, and to the wife of a business associate.

No need to tell you he had a swell time handling what most men would have considered a nightmareish task.

GEORGE KOBICK, apartment house manager, had his lovely wife along, as did H. H. BOSWORTH, central station manager. RALPH CAMERON, department store manager, was attending the National Retail Dry Goods Association convention in New York City, but he sent his wife along just the same.

Among the prominent "bachelors" on the trip were Manager P. B. ZIMMERMAN, Sales Promotion Manager WALTER DAILY (who is one anyway), FRED BOLLMEYER of Maxon, Inc., CHARLES FRANCIS COE, Movie Magnate X. F. SUTTON, and Texas Distributor GLENN ("Colonel") WASSON.

Every night on shipboard, both going and coming, there was a G-E meeting.

Sunday night Mr. Coe delivered one of his six-fisted inspirational talks. It was attended by practically the entire passenger list. Somehow the word had got 'round, and the place was so packed that some of the legitimate G-E men had a tough time getting seats.

Messrs. Zimmerman and Daily talked Monday night. Walter remembered the days 15 years ago when, as a United States naval officer, he had cruised the same waters on a destroyer only a third as large as the *Queen of Bermuda* and only one-twenty-fifth as comfortable.

Mr. Zimmerman talked about the competition between industries for the consumer's dollar, dwelling particularly upon the strides the automobile industry has taken in styling 1934 cars, and pointing out the factors which seem favorable to the increased sale of all-electric kitchens.

One of the most presentable of the younger Toppers was GEORGE KAHN, who sells for JUDSON BURNS in Philadelphia.

He is an earnest, sincere, diplomatic young man whose selling philosophy is based on the unbeatable old Law of Averages.

Cold canvass, ring door bells, make night appointments, never give up a prospect, keep everlastingly at it—these are the rules which have enabled George to be a Topper.

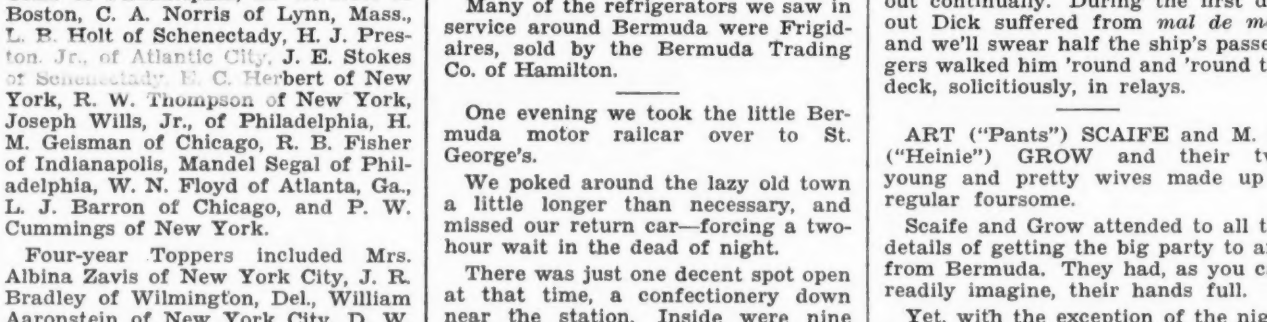
He works, on the average, four nights a week. However, he points out that a salesman must not make a nuisance of himself, but must time his calls and gauge his appearances to fit what he senses is the mood of the prospect.

All this, of course, has been said over and over again. But repetition doesn't detract from its truth, apparently, because the old rules still seem to work. An agreeable personality like Kahn's should help some, too.

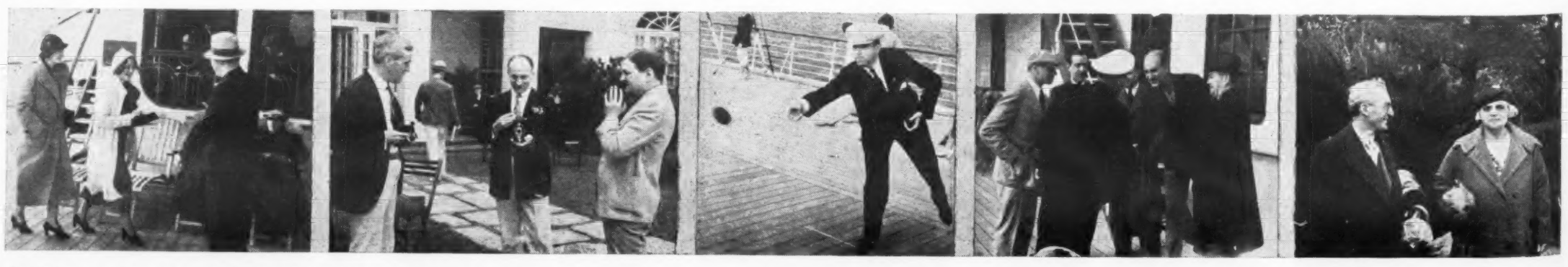
* * *

More to Come

Note: More pictures and stories about the jaunt of leading G-E salesmen to Bermuda—kept out by space requirements—are scheduled for the next issue.



These candid camera snapshots show how the G-E Toppers spent their time on the Bermuda trip. (1) Charles Witherspoon, who sold $263,000 worth of refrigeration equipment for Rex Cole to become No. 1 Topper, and his pretty wife; (2) Will I. Wilt (no foolin', that's his name) from Dallas, eats a big meal on the ship.



(1) The sun deck; (1) H. O. H. Quinn takes movies of some Kodakers; (3) Deck quoits—the fast camera catches the quoit in mid-air; (4) P. B. Zimmerman introduces "Ham" Campbell to the captain as Walter Daily looks on; (5) Mr. and Mrs. Mandel Segal, celebrating their twenty-fifth wedding anniversary.

Topper cyclist takes spill; S. S. Queen of Bermuda, which bore the Toppers to and from the island; getting the morning sun; "Zim" and the captain survey the scene from the bridge.

Proposed Code for Refrigeration Industry Covers Trade Practices, Advertising & Service Policies

(Concluded from Page 1, Column 1)

eration industry subscribing to the hours and wage provisions of the basic Nema code.

The text of the code presented below is taken from copies printed by the NRA for consideration at the open hearings, and it merely reflects the proposals made by the Refrigeration Division of Nema. *None of the provisions therein are to be regarded as having received the approval of the NRA as applying to the refrigeration industry.*

Article I—Purpose

To effectuate the policy of Title I of the National Industrial Recovery Act, the following provisions are submitted, pursuant to the provisions of Article XIV of the Basic Code of Fair Competition for the Electrical Industry, approved by the President Aug. 4, 1933, as a Supplemental Code of Fair Competition for the Refrigeration Subdivision of the Electrical Industry, and upon the eleventh day after their approval by the President shall, together with the provisions of said Basic Code and any modifications thereof, or additions or supplements thereto, hereafter made, be the standard of fair competition for the Refrigeration Subdivision of the Electrical Industry.

Article II—Definitions

The term "Refrigeration Subdivision of the Electrical Industry" as used herein is defined to mean the manufacture for sale of electrical household refrigerators and such commercial electric refrigeration as is not within the control of other duly approved codes. The term "person" as used herein shall include natural persons, partnerships, associations, trusts, trustees, trustees in bankruptcy, receivers, and corporations. The term "employer" as used herein shall include every person promoting, or actively engaged in, the manufacture for sale of the products of the Refrigeration Subdivision of the Electrical Industry as herein defined. The term "effective date" as used herein is defined to be the eleventh day after this Supplemental Code shall have been approved by the President of the United States.

Article III—General Provisions

(a) Employers are responsible for the enforcement of the provisions of this Code where their branches and agents are concerned, and shall not cooperate in the violation of this Code by selling to or through any distributor, dealer, or other independent type of distribution outlet who or which does not agree to comply with the applicable provisions of this Code. This Article shall be in effect until the approval by the President of a code for such distributor.

(b) Employers shall refrain from fraudulent and deceptive practices, including false or misleading advertising (more specifically covered in Article IV), mislabeling, and misbranding.

(c) Employers shall refrain from misappropriation of competitors' business by inducing breach of consumers' sales contracts, and shall refrain from maliciously enticing away employes of competitors for the purpose or effect of unduly hampering, injuring, or embarrassing competitors in their business.

(d) Employers shall refrain from willful or malicious defamation of competitors and from disparagement of competitors' products.

(e) Employers shall not give secret rebates or discounts, free special services or exorbitant advertising allowances, and shall not consign merchandise to distributors and direct dealers, and shall use their best efforts to prevent distributors and direct dealers consigning merchandise to dealers and subdealers under their control.

(f) Employers shall refrain from commercial bribery in the form of gratuities to salesmen or employes of distributors and dealers, or to offers of rewards or premiums to purchasers of products. This clause shall not be interpreted in such manner as to prohibit prize contests openly conducted among salesmen.

(g) The circularization of threats of suit for infringement of patent or trade-mark among customers of a competitor, not made in good faith and for the purpose of harassing and intimidating customers is an unfair trade practice.

Article IV—Advertising and Sales Promotion

Advertising and sales promotion, as dealt with in this Code shall have the broadest possible interpretation. The terms shall apply to magazine and newspaper advertising, bill boards, radio broadcasting, house organs, catalogs, direct mail material, and to all forms of advertising and sales promotional activities in verbal or printed presentation.

(a) No representation of a character calculated to mislead the uninformed or casual reader shall be used. All statements made in advertising or sales promotion shall be complete and so phrased as to convey to the casual and uninformed reader the full and complete facts.

(b) Advertising and sales promotion shall contain no representation of a negative character. Positive and truthful statements may be made concerning the advantages of the product, features of the product, company, and its methods of doing business. No misrepresentation, however, shall be made concerning the disadvantages of other products, features of products, or concerning competitors' methods of doing business. Statements in advertising or sales promotion regarding competitors, competitors' methods of doing business, or competitors' products may be made when the employer is prepared to substantiate legally such statements. The use of inference or innuendo is strictly prohibited under this Code.

(c) Advertising and sales promotional activities offering products which are not intended to be openly and freely sold, with the object of attracting customers for the purpose of selling other products, shall be held in violation of this Code.

(d) Used competitive apparatus shall not be accepted in partial payment for the products of the industry for sums greater than will be realized in the resale of such used products or apparatus, and allowances made in exchange for such apparatus shall take into account the costs of reconditioning and reselling.

(e) Neither direct nor indirect use shall be made of competitive apparatus in connection with sales promotion or advertising.

(f) Whereas advertising and sales promotion which deals with refrigerants tend to create in the minds of the public an erroneous impression of the hazards involved in the use of various refrigerants, and whereas such hazards are in fact negligible, any advertising or sales promotion which may directly or indirectly create such impression shall be held in violation of this Code.

Article V—Warranty and Service Policy

(a) Employers shall conform without deviation to the following form of warranty:

"The Corporation warrants to the original purchaser the refrigerating equipment sold by it and all parts thereof to be free from defects in material and workmanship under normal use and service. The Corporation's obligation under this warranty shall be limited to repairing or replacing any part of said refrigerating equipment which proves thus defective within one year from date of original installation, and which the Corporation's examination shall disclose to its satisfaction to be thus defective. This warranty is in lieu of all other warranties expressed or implied and of all other obligations or liabilities on the part of the Corporation, and it neither assumes, nor authorizes any other person to assume for it, any other obligation or liability in connection with the sale of said refrigerating equipment or any part thereof. This warranty will not apply to said refrigerating equipment or any part thereof which has been subject to any accident, alteration, abuse, or misuse.

"The Term 'original purchaser' as used in the foregoing warranty shall be deemed to mean that person, firm, association, or corporation for whom the refrigerating equipment referred to therein is originally installed; or the bona fide assignee of that person, firm, association, or corporation."

(b) Employers may develop individual plans for providing replacement units in case of complete failure after the expiration of the warranty, providing that amounts not less than the following schedule shall be billed to the customer and that such schedule of charges shall not be included as part of the selling price of the original equipment, and shall not be billed nor charged for in advance of such replacement:

For replacement in the 2nd year	$ 7.50
For replacement in the 3rd year	12.50
For replacement in the 4th year	17.50
For replacement in the 5th year	20.00

(c) Advertising and sales promotion shall contain no representation which would cause any person to assume that an extension of the uniform warranty is intended, nor shall any representation be made in advertising or sales promotion which will in any way tend to confuse such unit replacement plans with the warranty.

(d) In any case in which an employer's policy with respect to unit replacement is referred to in advertising or sales promotion, such advertising and sales promotion shall state clearly the amount which has been added to the complete unit price to cover the average cost of unit replacement.

Article VI—Terms

(a) Household refrigeration shall in no case be sold without a minimum cash payment equivalent to ten (10%) per cent of the installed price of the apparatus, and time payments in connection with such sales shall in no case be extended beyond twenty-four (24) months unless the unpaid balance exceeds $240, in which case the time payments shall in no case be extended beyond thirty (30) months. It is further provided that in no case shall monthly payments on any deferred payment contract for one or more household refrigerators be less than $5.00.

(b) Commercial refrigeration equipment shall in no case be sold without a minimum cash payment equivalent to twenty (20%) per cent of the installed price of the apparatus, and time payments in connection with such sales shall in no case be extended beyond twenty-four (24) months, unless the unpaid balance exceeds $2,400, in which case time payments shall in no case be extended beyond thirty (30) months.

(c) Interest and carrying charges, according to scales established by reputable persons, firms, or corporations regularly engaged in the purchase of commercial paper, shall in all cases be collected in connection with deferred payments.

(d) Sales made by employers to their outlets shall, whenever feasible, be subject to collection by sight drafts attached to bills of lading. Open account shall in no case be extended by employers to their outlets beyond the 20th prox. Employers shall collect interest charges at an annual rate of not less than six (6%) per cent on all overdue accounts.

(e) The provisions of this Article shall apply to all forms of deferred payment plans, including rental purchase plans.

Article VII—Enforcement

(a) Upon receipt of written complaint filed by an employer, the Supervisory Agency of the Refrigeration Subdivision of the Electrical Industry shall cause an investigation to be made for the purpose of establishing the facts. If such investigation establishes facts from which there is a presumption that this Code has been violated, the offending employer shall be requested by registered letter from such Supervisory Agency to refrain from such offending practice; and if that employer repeats the offense, the matter may be referred through the proper channels to the Federal Administrator for such action as seems to him proper in the circumstances.

When investigations are made or authorized by the Supervisory Agency of the Refrigeration Subdivision, such investigation shall be made by a person or persons not employed by any member of the industry, whenever such investigation requires facts to be obtained which should not be made known to competitive organizations.

Article VIII—Amendments

(a) Any provision of this Supplemental Code may, with the approval of the President of the United States, be modified or eliminated as changed circumstances or experience may indicate. Study of the trade practices of the Refrigeration Subdivision of the Electrical Industry will be continued by the Supervisory Agency for this Subdivision heretofore appointed by the Board of Governors of National Electrical Manufacturers Association for approval from time to time amendments of, or additions to, this Supplemental Code applicable to this Subdivision.

Article IX—Status Prior to Effective Date

(a) Prior to its approval by the President, the applicant for this Supplemental Code may at any time change or modify any provisions of, or may withdraw this Supplemental Code.

(b) The applicant will not be deemed to have consented to any change or modification of this Supplemental Code which may be affected by the President's order of approval unless such change or modification is submitted to the applicant and consented to by the applicant.

Get the Jump on Competition with

WURLITZER
DUOZONE
Special Cooling Coil keeps food compartment at safe storage temperature.
Special Freezing Coil - for high-speed freezing of ice and desserts.
CHILL-R-ATOR
They're sold when they're told about DUOZONE

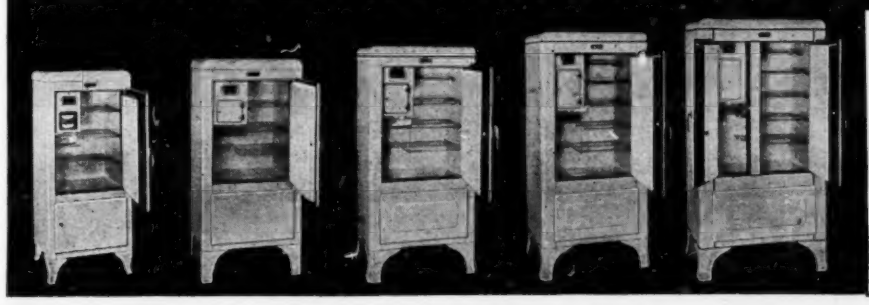
Long Discounts that mean Bigger Profits!

Here's the sales clincher you've been looking for! With its dual refrigerating coils — one for cooling the food storage compartment — the other for quick freezing of ice cubes and desserts — the Wurlitzer DUOZONE has the greatest single selling feature of any electric refrigerator on the market today. ***Tell cold prospects about the*** **DUOZONE** ***Unit — and you turn them into live customers.***

Priced right for quick sales — priced to give distributors and dealers a real profit — Wurlitzer DUOZONE is a sure money maker. Tie up with Wurlitzer DUOZONE Refrigeration for 1934 — and you're set for your biggest, best refrigerator year.

Get the jump on competition with Wurlitzer DUOZONE Refrigerators. Mail the coupon TODAY — get full information about the Wurlitzer DUOZONE Proposition that means bigger profits!

5 Models .. Complete in Style and Price Range



MAIL IT!

The Rudolph Wurlitzer Mfg. Co.,
North Tonawanda, N. Y.

Send me QUICK full details on the Wurlitzer DUOZONE Proposition for 1934:

Name .....

Address .....

City ..... State .....

VIRGINIA SMELTING Company
WEST NORFOLK, VIRGINIA
76 BEAVER ST., N.Y. - 131 STATE ST., BOSTON
Extra Dry
ESOTOO
LIQUID SULPHUR DIOXIDE
V-METH-L
METHYL CHLORIDE

? *Did you know that in* ?
KRAMER REFRIGERATION PRODUCTS YOU HAVE
every COIL—UNIT COOLER—CONDENSER and DOMESTIC FREEZER REQUIREMENT
5145 Liberty Ave. Pittsburgh, Pa. TRENTON AUTO RADIATOR WORKS 241 West 68th St N. Y. C.
Trenton, N.J.

Think of it! A whole year's

Some of the valuable information which readers of Electric Refrigeration News found in recent issues

Air Conditioning

Sept. 13—263 tons of air conditioning installed in Detroit during summer of 1933—installations charted and tabulated.

Oct. 4—Air-conditioning installations in Reading, Pa., territory tabulated. Report on promotion of air conditioning by utilities.

Oct. 11—Air-conditioning controls.

Nov. 1—Air conditioning a business getter for the drug store.

Nov. 15—Air conditioning for the apparel store. Norge Aerolator introduced.

Nov. 29—Westinghouse conference on air conditioning reported. Relief of hay fever by air conditioning.

Dec. 6—Indirect cooling for theaters.

Dec. 13—Compact, light weight, and reliable equipment needed for railway air conditioning; discussion of various systems now in use. Functional classifications of unit air conditioners.

Dec. 27—Comprehensive survey of air-conditioning installations in 12 cities, with tables.

N. R. A. News

Sept. 13—Code filed by commercial case industry. Text of code reprinted in full.

Oct. 25—President approves code for retailers; salient features of code.

Nov. 22—NRA exempts outside commission salesmen for minimum wage scales.

Service

Sept. 13—Handy chart by which service men may determine operating pressures corresponding to various temperatures of six common refrigerants published and explained.

Oct. 11—How specialists in motor service repair refrigeration motors, illustrated with eight how-to-do-it photographs. Specifications of all leading makes of motors and controls. Speed-torque curves for three types of motors. Motor protection for certain conditions in refrigeration systems. Using the oscillograph to study arcing of a control's contacts. Testing instruments for helping service men repair controls. Characteristics of capacitor motors. Motor wiring diagrams.

Oct. 25—Handling thermostatic expansion valves. Refrigerant metering devices for different types of systems.

Nov. 1—How to clear oil-bound evaporator of flooded type. Gas masks and their use. New suction pressure limiting valve application.

Nov. 8—Refrigeration insulation depends on three kinds of resistances, with explanatory drawings. How to determine cloud point and pour point of oil for refrigerating systems. How to relieve gas binding in high side floats. Methods of servicing draft beer coolers.

Nov. 15—New Los Angeles city ordinance regulating service men. Remedy for chattering water lines.

Dec. 6—Installation of commercial refrigeration equipment discussed in several articles and with three pages of pictures.

Dec. 13—Eliminating moisture from sulphur dioxide systems. New data on condensing water for air-conditioning systems. Methods of testing refrigeration systems, with tables.

Dec. 20—Eliminating moisture in methyl chloride systems. How to measure noise in electric refrigerators.

Statistics

Sept. 13—Nema sales figures for July reported and analyzed—297.7 per cent increase over July, 1932.

Sept. 27—United States collects $2,111,868 excise tax on refrigerators during fiscal year ending June 30, 1933, and $2,206,763 on radios.

Oct. 4—Nema sales figures for August tabulated—256 per cent increase over August, 1932. Estimated sales of household electric refrigerators by U. S. manufacturers, January-August, 1933. Electric Refrigeration Bureau estimates sales of 890,380 household refrigerators in first eight months.

Oct. 25—Nema sales figures for September tabulated. Exports of electric refrigerators for August.

Nov. 8—Charts indicating that 1933 will set new sales record for household electric refrigerators.

Dec. 6—One million household electric refrigerators sold in first 10 months of 1933, more than in any previous year, according to tabulation of sales of 40 manufacturers by ELECTRIC REFRIGERATION NEWS.

Dec. 13—Chart showing that the 1933 seasonal decline was less than that of previous years. Tabulation of sales for first nine months in Philadelphia territory.

Dec. 27—11 Nema companies sell 23,444 refrigerators in November.

Sales Promotion

Oct. 18—Advertising expenditures of refrigeration industry in national magazines over five-year period (1928-32) tabulated by companies. Analysis of advertising expenditures of leading manufacturers. Relation of advertising to Nema sales charted by years.

Oct. 25—Round table discussions of refrigeration promotion by department store merchandising managers at Cleveland clinic reported. G-E advertising and sales promotion conference reported.

Nov. 8—Norge promotion program for 1934.

Nov. 29—Christmas window display ideas.

news and information service for only $5.00 - -

THE leaders in the refrigeration business all say that more refrigerators will be sold in 1934 than in any other previous year.

Everything is in your favor, Mr. Dealer, for you to make more money selling refrigerators this year than ever before.

The price trend is upward.

The industry is now more stabilized.

The public has more money to spend.

Refrigeration manufacturers will spend more for consumer advertising than last year.

All of which should spell more orders and more profits to you if you take advantage of all of these favorable factors.

The refrigerator business sets a fast pace. It will move faster this year than ever before. Competition will be keener and you will have to be more alert to changing conditions if you are to hold your business position and improve it in step with the upward business trend.

The weekly issues of ELECTRIC REFRIGERATION NEWS will bring you the kind of information you need to know to keep abreast of the important happenings in the refrigeration business.

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Refrigeration Associations
—Listing of official personnel of the trade associations in the refrigeration industry.

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—monthly sales for commercial refrigerators for the last six years with breakdown showing sales of cabinets, water coolers, ice cream cabinets, milk coolers, etc.
—monthly export sales on all refrigerators by countries for the last eight years.
—sales of industrial refrigeration machines for the last 33 years.
—an estimate of number of refrigerators sold for replacement.

Specifications
—Of all models of all makes of household and commercial refrigerators.

Directory Listings

Alphabetical Listings
—Names of all companies which sell products or services to the refrigeration industry, listed alphabetically.

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City and State .....

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(Please indicate other products or principal line of business.)

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VOL. 11, NO. 5, SERIAL NO. 254, JANUARY 31, 1934

Oil Burners

DAVE TRILLING of Trilling & Montague, Norge distributorship in Philadelphia and one of the three or four best-known independent distributors in Philadelphia, should get credit for starting a trend and a movement—that toward the merchandising of oil burners through the same specialty distributorships which are now selling electric refrigerators so successfully.

In July, 1932, so the story goes, Dave was in a brown study. He had had a whopping big month with Norge sales in June (immediately prior to the date when the U. S. excise tax of 5 per cent became effective), but July sales had dropped with a heavy thud. Dave was just about to decide, as a result of his brown study, that his distributorship needed a new companion merchandise line with a peak sales season in late summer and early fall, when in walked one of his star salesmen.

"Hello," says Dave, "how're things down at the store?"

"Oh, I'm not down at the store any more," replied the salesman. "I couldn't make enough money selling refrigerators any more, so I've gone back to my old game."

"What's that?" asked Dave.

"Oil burners. I always sell them in late summer and early fall. Refrigerators I sell in the spring and early summer. I make a good living that way."

There, thought Dave, is the answer to my problem. If an individual salesman can keep his sales curve up—and his income steady—by selling oil burners when the demand for electric refrigerators dies down, why couldn't a distributorship do likewise?

His partner, Harry Montague, thought the oil burner industry wasn't ready yet for specialty distribution, but told Dave to go ahead and contact manufacturers. So he did. And he found out that Harry was right—all he could get was a dealer's proposition. Oil burner manufacturers simply couldn't see the point to a distributor-dealer setup, with the long discounts necessary for an operation of that nature. Most of them operated through branches.

So Dave tried another tack. He was himself a user of an ABC oil burner, and liked it. He contacted Vice President Joe Hirsch and President J. H. Hirsch, and *sold them* on the idea of giving up their Philadelphia branch and turning the distribution rights for that territory over to him. Since that time ABC has granted other full distributor franchises and, as told on the front page of this issue, is now ready to push its entire output through specialty distributors—not even reserving for branch operations the rich metropolitan territories.

This rather lengthy anecdote is related here because we think it is highly significant. It tells why oil burners haven't been sold through specialty distributors previously, and marks, we think, the beginning of an era.

In the fall of 1930 ELECTRIC REFRIGERATION NEWS devoted an eight-page section, printed on pink paper, to the possibilities of oil burners as a companion line to electric refrigerators. Both products, it was pointed out, were designed for the home and were aids to better health. Both products could be sold to the same prospect list; the sale of one gave the salesman an easy entree for the sale of the other. The same salesmen could sell each, and the same service departments could learn to service each. Financing of time payment paper could be handled through the same channels. Best of all, the oil burner selling season begins when refrigeration sales begin to drop.

Manufacturing affinity of the two products is even closer. The same types of controls, motors, pumps, and foundry work are required for refrigeration compressors and oil burners. It wouldn't be at all difficult to convert an electric refrigerator factory, idle in midsummer, to a busy oil burner factory.

There is even a similar engineering argument: between rotary and reciprocating compressors, on the one hand, and between rotary and gun-type burners, on the other.

Williams has been putting out the two products in the same factory for years. At first Williams Oil-O-Matics and Ice-O-Matics were sold by the same direct dealerships. Later, refrigerators were transferred to a separate division, and sold through distributors.

Kelvinator is now making both electric refrigerators and oil burners. General Motors has its Frigidaire refrigerators and its Delco oil burners. General Electric is manufacturing both electric refrigerators and oil-burning furnaces (former sold through distributors; latter direct to dealers).

Last year only 55,000 oil burners were sold. The market is just about 10 per cent saturated. Obviously something is wrong with the method of distribution. Electric refrigeration distributors, who *know how to sell,* think they have the answer. ABC proposes to find out if they do.

One difficulty with the sale of oil burners through specialty distributors has been that the latter knew nothing, and were apparently unwilling to study thoroughly, heating and ventilating. Thus oil burner manufacturers have felt themselves limited for outlets to the plumbing shops with toilet seats in the show windows. Now, however, specialty distributors are finding that they must learn a great deal about heating and ventilating if they are to go into the air-conditioning business. Taking on a line of oil burners is the first step.

If present indications are to be trusted, the annual oil burner show at Philadelphia in March will be well attended by electric refrigeration distributors.

WHAT OTHERS SAY

Noise is Next Problem for Auto Industry

NOISE in the modern automobile is the next problem for which science is expected to bring forward a solution. With car ventilation at the stage where it is pointing the way toward air conditioning, and streamlining starting to do the job of cutting down wind resistance, engineering minds are intent on subduing sounds that are considered enemies of motor car operation.

The Society of Automotive Engineers devoted half a day to a "noise symposium" in which tire noise, muffler noise, engine noise, and body noise were subjects of discussion.

Theodore M. Prudden, an engineer who has specialized in the study of sound, told the assembly that quieting devices eventually will become standard equipment for automobiles.

"Remember," Mr. Prudden said, "that the public is already 'quiet conscious.' The treatment of halls for talking movies has helped in this matter, and so has the excellent progress made in reducing office noises.

"Today we have silent oil burners and noiseless refrigeration. A few years ago a noiseless typewriter was unknown."

At the same session, the tire noise problem was analyzed by Arthur W. Bull of the United States Tire Co.; that of muffler noise by E. G. Gunn, Walker Mfg. Co., Racine, Wis. Body noise was discussed by Commander W. Briggs, General Motors Proving Ground; intake silencers by J. O. Almen and E. E. Wilson, General Motors Research Laboratories; and sound absorption by S. Hazard, Jr., Seaman Paper Co.—*Detroit News.*

OPINIONS

(Continued from Page 1, Column 3)

particularly Norge. We have an outstanding product to sell in 1934 and furthermore it is going to be backed up by more aggressive advertising than in the past.

We expect to see keen competition because everybody is out to get their share. They all have their refrigerators dolled up for greater eye-value. We are tooled up to get our share, as well.

I think the industry has a right to be optimistic because all indications point for better stability in business during 1934, and fair trade practices in codes will be effective, and should be for the general good of everyone in the industry.

Our experience in selling electric refrigerators in 1933 was quite profitable. The number of our dealers was increased during the year, and we expect to expand our dealer body still further in 1934.

I believe household refrigeration sales will be good in the future. Considerable promotion work must be done, however, before air conditioning can be sold in sufficient volume to be profitable, in my opinion. We cannot see that the beer cooler business will be so good in the future, although the commercial refrigeration business stands to be fair. Radio sales will undoubtedly show improvement, I think, and the outlook for oil burner sales looks good. We expect a fair electric range business, and a good volume of vacuum cleaner and washing machine sales. Dishwashers are still in the promotional stage.

DAVID M. TRILLING.

Optimistic

DAVID M. TRILLING

Waddell Will Appoint New Norge Dealers

General Equipment Corp.
Norge Rollator Refrigerators,
Washing Machines, Broilator,
Air Conditioning,
Quiet May Oil Burners
584 Commonwealth Ave., Boston
Jan. 18, 1934.

Editor:

Allow me to congratulate you on the wisdom of getting from the electrical refrigerator wholesale distributor information you ask. Such information will necessarily contribute considerably to the general information of the industry.

Our experience in selling Norge refrigerators in 1933 has not only been profitable and most satisfactory, but exceeded even our most optimistic hopes that existed in the first part of 1933 despite the gloomy surroundings.

We have substantially increased the number of Norge dealers in 1933, and we further intend to expand the number of these dealers in 1934 in territories that heretofore have been uncovered in coordination with the Norge factory plan of getting complete coverage in the smaller towns.

However, some of our dealers who were unprofitable or who didn't appreciate the Norge line in its fullest extent will be replaced by those more desirable display outlets.

This January has been the most unusual in our experience in the industry, because of the number of inquiries for Norge franchises that have come in the mail unsolicited, showing that there is a very definite and profound acceptance in our territory for Norge Rollator refrigeration.

It stands to reason that from these inquiries there will be a selection made by us of more substantial dealers who will replace those who have demonstrated that they are out of step or out of tune with the industry.

However, those Norge dealers who performed in 1933 are voluntarily expanding their own operations for 1934, and are coming into our office telling us about it before we find it necessary to tell them. Such a reaction augurs well for 1934 sales of Norge in our territory, particularly since the fact has been well known in our territory that the General Equipment Corp. is celebrating its fifth anniversary in selling Norge refrigerators in New England.

This as far as we can find out is a unique record that one wholesale distributor has consistently sold for five consecutive years the same line of household refrigeration. It is a tribute to Norge stability. It's a tribute to Norge dealers who have stayed with us these five years and built this Norge picture in New England.

Our future plans include household refrigeration, Norge air-conditioning, Norge commercial refrigeration, Norge washing machines, and a concentrated effort on Quiet May oil burners for 1934. These companion appliances will take their relative place in a major proportion. It looks like it is a Norge and Quiet May year for 1934.

J. G. WADDELL.

Bensinger Thinks 1934 Sales Will Be Good

Bensinger Outfitting Co.
Crosley Refrigerators
313 W. Market St., Louisville
Jan. 13, 1934.

Editor:

Our experience in selling refrigerators in 1933 was satisfactory.

We think the future for selling household refrigerators is very good, but have not gone into the matter of air-conditioning, beer coolers, or commercial refrigeration equipment of this kind, but we do expect to do a large volume of radio business, vacuum cleaners, and washing machines. We do not expect to go into the selling of oil burners or dishwashers at this time.

If you will secure a copy of the March issue of *Retail Furniture Selling* you will note where Barlow & Seelig Mfg. Co. of Ripon, Wis., have an advertisement featuring our store where we sold 1,000 Speed Queen washing machines during the year of 1933.

CHARLES BENSINGER,
President.

More Complete Line Will Boost Schaefer's Sales

E. H. Schaefer Corp.
General Electric Distributor
863 N. Plankinton Ave., Milwaukee
Jan. 12, 1934.

Editor:

In 1933, our business, due to the bank holiday and unusually late spring, was slow in getting started but commencing about May 15, each month showed a nice increase over the same month in 1932 and we finished the year with an increase in sales volume which enabled us to show a normal profit which was more than gratifying when compared to 1932 operation.

This was due somewhat to the fact that we curtailed expenses considerably, such as obtaining our lease on a percentage basis, etc.

We are more than optimistic with the outlook for 1934, for several reasons:

First, we have the most complete line that can be offered with improved appearance and quality together with prices that are in keeping with other manufacturers, and the fact that we have been able to hold our dealers and obtain a number of additional outlets which leads me to believe that our sales during 1934 will be more than gratifying.

Second, in our own retail organization in Milwaukee, we have been able to retain our sales organization intact due to the diversified line of General Electric products which we have to sell. Our appropriation for advertising is considerably larger than it has been in the past and we will be in a position to make the public still more conscious of the value of the savings derived from the use of an electric refrigerator in the home.

We look forward to accomplishing

(Continued on Page 11, Column 1)

Organization Intact

E. H. SCHAEFER

OPINIONS

(*Continued from Page 10, Column 4*)

approximately a 100 per cent increase in sales in our territory over 1933 inasmuch as during the first 10 days in January, 1934, we exceeded our volume of business for the entire month of January, 1933.

With reference to commercial refrigeration, the General Electric line is so complete that it enables us to make any type of commercial installation up to 15 hp. Although air conditioning is still being pioneered, considerable interest is being shown in this field and we can expect a good business during 1934.

The beer-cooling application of electric refrigeration was not as great during 1933 as was expected earlier in the year due to uncertainties in the tavern business. However, this business has settled down with the repeal of the eighteenth amendment, making it possible for better business men to be interested in the business. The sales to the better taverns are picking up and it is reasonable to expect a good business in this application of commercial refrigeration during 1934.

Better business conditions are resulting in the opening of many new stores requiring commercial refrigeration. Hotel and restaurant business is improving and sales to these types of outlets are on the increase.

A surprising increase in sales of milk-cooling applications has been noted in the past few months and indications are that the milk producing industry will take a large number of commercial machines during 1934. Taking all in all—the commercial refrigeration business looks good for 1934.

With the outlook for new building which will gradually increase this year, we expect considerable increase in business in our all-electric kitchens together with any number of range and dishwasher installations.

We also expect that with the favorable rate which the local utility in Milwaukee is offering together with their splendid cooperation, we will obtain a splendid sales volume in electric ranges.

E. H. SCHAEFER,
President.

New Grunow Distributor Forecasts Banner Year

Shapiro Sporting Goods Co.
Grunow Electric Refrigerators
90 Broadway, Newburgh, N. Y.
Jan. 12, 1934.

Editor:

We were appointed distributors of Grunow refrigerators on Dec. 1, 1933, and therefore cannot give you most of the information you desire. Previously we did not distribute refrigerators.

It is our honest opinion that 1934 should prove a banner year for the sale of household refrigeration.

In regard to air conditioning, we feel that there is a much brighter future for this phase than there is for any other. However, the air-conditioning units will have to be priced moderately and so constructed as to permit a partial installation, that is in one-room sections.

Beer coolers and commercial refrigeration equipment should show a spurt during the coming year.

The radio market is just about ready for replacement of lower-priced sets and midgets, which constituted the bulk of the radio sales in the past two years. With the improvement in business conditions, most consumers are ready to purchase higher priced radios at this time.

In regard to oil burners, we believe that the sooner all manufacturers get together and construct an oil burner, together with a fire box, the appearance of which will not mar the general appearance, oil burners will move rapidly.

At the present time the mere addition of a unit in the old fire box may be satisfactory in some instances, but service trouble arises frequently which makes the consumer rather suspicious as to the merits of the oil burner.

Ranges, vacuum cleaners, and washing machines have shown a decided improvement in this territory in the past year and are continuing to maintain a good level in 1934.

The sale of dishwashers, from our observation in this territory, is practically nil. This is due to lack of promotion on the part of the manufacturers. National and local advertising, public demonstrations, and other work of a promotional nature should stimulate sales of this item.

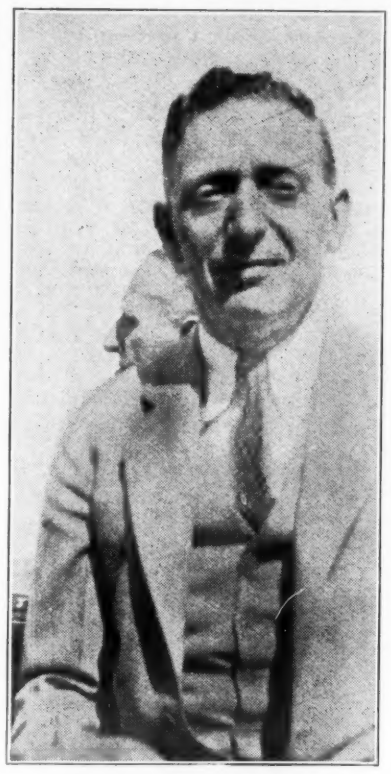
D. BLADER.

Harrison Cites Market Saturation Figures

Philip H. Harrison & Co.
General Electric Distributor
41 Central Ave., Newark
Editor: Jan. 20, 1934.

The percentage of saturation of the electric refrigeration market indicates to me that we have reached the point where sales should reach new peaks during 1934 and for several years following.

New in the Industry



HYMEN SHAPIRO

When somewhere in the neighborhood of 25 per cent of all wired homes have purchased electric refrigerators, it is a safe bet that a large proportion of those who have not yet bought will take action at an ever increasing rate.

While 1933 was not all that could be expected, it showed a healthy increase over the previous year and we found it profitable.

I believe that competition will be keen in 1934 and that the distributor who expects to get his share of the market will have to give great attention to an increase in the number of his dealer outlets and in the number of well-trained salesmen. We are devoting a great deal of attention to these problems.

We are also giving much attention to the present state of our market and find that the wage-earning classes are accounting for an increased percentage of our total sales.

I believe that distributors who have been devoting their entire attention to the sale of electric refrigerators have now arrived at a point where it will pay them to add other allied lines and that they can hope to do so with a fair chance of success.

However, distributors who expect to make a success of air conditioning, commercial refrigeration and beer coolers will have to appreciate the fact that engineering is an entirely different function from merchandising.

Purely from a merchandising standpoint, I believe refrigerator distributors can capitalize profitably on their present users by developing a market for ranges and dishwashers and that they can build for themselves a reputation as headquarters for the electrification of the American home.

Electric refrigeration distributors have, in my opinion, a very excellent opportunity for expansion and development into allied lines of business, but success in so doing will depend largely upon the ability of each distributor to select the right products, and, with an eye to the future, give a great deal of attention to organization and major policies.

PHILIP H. HARRISON,
President.

Responsible Dealers Returning—Black

The Otis Hidden Co.
529-535 W. Main St., Louisville, Ky.
Jan. 22, 1934.

Editor:

The Otis Hidden Co. are wholesale distributors distributing a line of products that is best classified under "floor coverings and house furnishings." The company was organized in 1864 and accordingly rounds out its seventieth year this year.

Our distributive territory includes Illinois, Indiana and Ohio and all territory south of the Ohio river and east of the Mississippi, only crossing the Mississippi to serve the eastern part of Missouri and Arkansas.

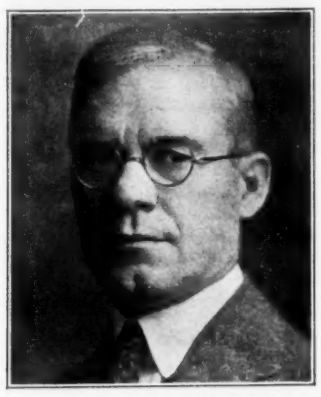
Our territory operations are intensely centered in the territory within approximately 300 miles from the city of Louisville.

Radio products were added to our line in the fall of 1931. We entered the refrigeration field in 1932 and became distributors for Majestic radio and refrigeration in the fall of 1932. You will realize, therefore, that we do not have a great deal of information on which to base any comparisons of our success in 1933 with prior years of operation.

Our experience in selling Majestic refrigeration in 1933 was most highly satisfactory and profitable taking into consideration the fact that incomes during the year were very much reduced and that Majestic refrigeration is of the better quality higher priced class and that we made no appeal to those demanding refrigeration in the lower priced field.

During 1933 the number of Majestic

Better Conditions



L. C. SPELLMAN
President, Otis Hidden Co.

refrigeration dealers remained practically unchanged but the character and responsibility of the dealer organization was placed on a much higher plane.

Like so many new products the opportunities for the sale of electric refrigeration invited many to apply for dealership who were fundamentally unfitted and ill-equipped to assume the responsibility that is properly attached to a dealer in refrigeration.

General conditions eliminated many of this class in 1932 and 1933 and the individual purchasing refrigeration today rightfully inquires into the responsibility of the dealer as well as the distributor and manufacturer.

With improved family incomes we are of the opinion that household refrigeration is in for one of the best years in its history in 1934. The greater part will be in new installations but, of course, there will be some replacement of the cheaper units acquired during the last several years.

During 1934 there should be a very

(*Concluded on Page 12, Column 1*)

Letters Previously Published

Letters from the following distributors were published in the Jan. 17 issue:

H. B. Alderman, Inc., Buffalo, N. Y., H. B. Alderman.

Auto Equipment Co., Denver, Colo., I. H. Parks.

Bard & Barger, Inc., Cincinnati, Turner Barger.

H. G. Bogart Co., Toledo, H. G. Bogart, Jr.

Brown-Johnston Co., Spokane, Wash., L. Weiss.

Louis Buehn Co., Philadelphia, Louis E. Buehn.

Capital City Paper Co., Springfield, Ill., C. E. Roach.

Carolina Kelvinator, Inc., Greenville, N. C., Jas. T. Little.

General Electric Supply Corp., Salt Lake City, Utah, Jacob A. Kahn.

Goodling Electric Co., York, Pa., Charles G. Eyster.

Grubbs Electric Mfg. Co., Greenville, Ohio, Basil Grubbs.

Harbour-Longmire Co., Oklahoma City, Harry Canup.

Ignition Service & Supply Co., Albany, N. Y., H. J. Zehner.

Jenkins Music Co., Kansas City, Mo., H. L. Schmutz.

Kelley-How-Thomson Co., Duluth, Minn., R. G. Barnes.

Midwest-Timmerman Co., Des Moines, Iowa, G. J. Timmerman.

Modern Home Utilities, Inc., Waterbury, Conn., J. E. Neily.

Mueller Lumber Co., Davenport, Iowa, M. W. Andresen.

Pixley Electric Supply Co., Columbus, Ohio, L. R. Krumm.

Radio Equipment Co., South Bend, Ind., J. H. Sunderlin.

A. A. Schneiderhahn Co., Des Moines, Iowa, A. A. Schneiderhahn.

Southern Equipment Co., San Antonio, Tex., Ellis Chaney.

Straus-Bodenheimer Co., Houston, Tex., D. H. Straus.

Watkins-Cottrell Co., Roanoke, Va.

Witte Hardware Co., St. Louis, Mo., R. C. Houck.

Frank W. Wolf, Inc., Buffalo, Frank W. Wolf.

Letters from the following distributors appeared in the Jan. 24 issue:

George T. Bauder Co., San Diego, Calif., George T. Bauder.

Bruno-New York, Inc., New York City, Harold A. Glasser.

J. H. Burke Co., Boston, J. H. Burke.

Electric Appliances, Inc., San Francisco, L. H. Bennett.

The Front Co., Wheeling, W. Va., A. K. Clifford.

Graybar Electric Co., Inc., New York City, Herbert Metz.

H. R. Huston Co., New Castle, Pa., J. H. Huston.

Iron City Electric Co., Pittsburgh, W. M. Kline.

Walter C. Myers Co., Minneapolis, Walter C. Myers.

C. R. Roger Co., Pittsburgh, C. F. Gaylord.

Russell Refrigeration Co., Huntington, W. Va., Bennett Russell.

Sidles-Duda-Myers Co., Lincoln, Neb., C. L. Carper.

Sidles-Duda-Myers Co., Des Moines, Iowa, M. J. Murphy.

Stauffer, Eshleman & Co., New Orleans, George H. Lehleitner.

Tri State Electric Co., Sioux Falls, S. D., N. T. Ronan.

Wisconsin Sales & Supply Co., Milwaukee, R. W. Barbour.

So frequently is it said by those who know the merits of various electrical refrigeration units: "You make no mistake when you buy a Universal Cooler." Which is merely another way of saying that no units give more outstanding or dependable performance.

UNIVERSAL COOLER CORPORATION
DETROIT, MICHIGAN BRANTFORD, ONTARIO

MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATION EQUIPMENT

OPINIONS

(*Concluded from Page 11, Column 5*)

large replacement market in radio. The vacuum cleaner business should improve and if the present unsatisfactory conditions in the washing machine business can be corrected, satisfactory results in this line should be obtainable in 1934.

I do not believe, however, that this business will be very much greater than that obtained in 1933. The economic conditions prevailing in the last three years were, in our opinion, most favorable and a considerable factor in creating the washing machine demand.

J. J. BLACK,
Secretary.

Hambly Believes Time Payment Market Good

Graham Hambly & Son
Leonard Electric Refrigerators
2448 Enterprise St., Los Angeles
Editor: Jan. 17, 1934.

We had a very satisfactory selling season on Leonard refrigerators in 1933 which resulted in some profit, although the season, due to economic and climatic conditions was not looked upon by local distributors and manufacturers as a good year.

We increased our dealer outlets in 1933 22 per cent over 1932, and expect to materially increase this percentage in 1934. An adjustment of competitive conditions in this territory is making the retail sale of refrigerators more attractive to a wider range of outlets by which we expect to materially increase our coverage, especially in Los Angeles city.

We feel that the household refrigerator has a greater potential sale than any other major appliance. With the very much brighter economic outlook consumers who have had a strong desire to possess an electric refrigerator will develop into customers.

The large increase in cash buyers during '33 indicates to us that a much greater time payment market, which comes largely from the wage earner, will develop materially increased sales if we continue to pull out of the subnormal situation that has prevailed for the last two years in this territory.

Air-conditioning in this field has been confined almost entirely to commercial buildings, and the cost of installation and maintenance will have to be materially reduced before a large sale of this equipment can be expected for household use.

We do not handle any commercial type of refrigeration and are not conversant with the local situation as pertaining to this or beer coolers.

Radios sold in very satisfactory volume during the fall months but this demand has materially fallen off during the last thirty days.

Oil burners are not a fast selling item in this territory due to the extensive distribution of cheap natural gas.

Electric ranges are being given a great deal of publicity, both by the public utilities and department stores. Large volume in this line has not materialized, in fact electric stores are stocking gas ranges as a major item.

Vacuum cleaners as a counter outlet are selling in small volume. Their sale being largely confined to direct selling through department stores.

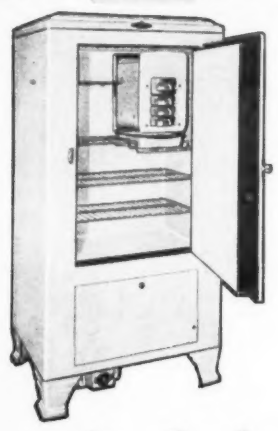
Washing machines have shown a very heavy sale, for the last two years, but a noticeable softening of this demand has been evident during the last six weeks.

J. GRAHAM HAMBLY.

WANTED!

WE OFFER A REAL PROFIT OPPORTUNITY IN NEW RURAL REFRIGERATION MARKET TO

DISTRIBUTORS AND DEALERS



NEW *Air-Cooled*

ELECTROLUX

NOW OPERATES ON

KEROSENE

FOR FARM HOMES

THIS is the same nationally advertised air-cooled Electrolux Refrigerator that is today faithfully serving 350,000 modern American families in fine city homes and apartments. In cities, a tiny gas flame keeps the refrigerant circulating. Now, for farm homes, a wickless glow-type kerosene burner has been perfected!

Electrolux has no moving parts to wear. For this reason it is permanently silent and needs no costly repairs. It uses no water. Its cost to run is exceptionally low. And because its five-gallon tank holds enough kerosene for seven or more days' operation, Electrolux requires very little attention.

Gleaming white, sturdily built, the cabinet of the new Electrolux duplicates in every important respect the Electrolux cabinets to be found in finest city apartments. It's a cabinet *any* woman will be proud to own—with every worthwhile modern convenience to make her kitchen work easier—new sales-making features that every woman wants.

To thousands of rural families Electrolux offers the first opportunity for fully satisfactory automatic refrigeration. To distributors and dealers—now being appointed—it offers the profit possibilities of a new and untouched market.

Clip Coupon for Complete Information

ELECTROLUX REFRIGERATOR SALES, INC.
Evansville, Ind.
Gentlemen: I am interested in (distributing) (owning) the new rural Air-Cooled Electrolux. Please send me complete information. This implies no obligation on my part.

Name_____

Street Address_____

City_____ State_____

Dealers Who Work Are Real Asset—Hegleman

Capital City Distributing Corp.
Gibson Electric Refrigerators
1039 Broadway, Albany, N. Y.
Jan. 12, 1934.

Editor:

Business prospects for 1934 are very encouraging . . .

A year ago our company felt that irrespective of how business conditions would be in 1933, we felt reasonably sure that whatever business was to be had would be gotten by those concerns who were optimistic, enthusiastic, and went after business in the proper manner.

Organizing our selling force to suit the needs of 1933, we set for ourselves a quota on refrigeration which was 100 per cent greater than the year before. In reviewing our records for the past year, we find that our sales were 250 per cent greater than the year before. Certainly we are well pleased with our refrigeration results for 1933.

We concentrated on domestic refrigeration at that time because we felt it would give us the greatest return for our efforts.

In September we added three men to our sales staff, took on additional territory, and finished 1933 in a most satisfactory manner.

We look forward to 1934 with great hopes for a profitable year of business. With higher prices in effect, with a possibility of more sales, every distributor who plans his method of selling and goes after the business with a grim determination of winning should have no complaints when 1934 is ended.

This will be our third year with Gibson refrigeration. We felt, particularly in refrigeration, that the number of dealers were not as important as who the dealers were because we have found that dealer mortality has been the greatest detriment to any business, particularly the refrigeration business where service is such an important factor.

While it is true that the Gibson electric refrigerator is so designed that service can be rendered by anyone within a half hour's time simply by exchanging the unit, yet we feel that a man must be fully equipped because of his own attitude, to properly render satisfactory service to the customer which does not at all times mean service on the unit but sometimes means an explanation as to the proper use of the refrigerator.

As to how impossible it is to tell properly from whom you will get real business, we can only sight Samuel Deuel Lumber Co., located in a town of 190 who sold 55 Gibson refrigerators for us in 1933.

We realize, of course, that all of these were not sold directly in the town but if a dealer in such a small town can have such a remarkable sales record, what could other dealers do who would go after the business in the proper manner which befits an important industry such as the electric refrigeration industry.

Too many dealers are still complaining and sitting in their chairs with their feet on the desk complaining about the "good old days." The past cannot really be compared with the future because we have seen prophecies and statements made by so many analyzers in the past few years that it is almost impossible to predict anything.

Certain fundamentals however, will always remain true, that business there will be; certain businesses will prosper and certain businesses, as a result of their obsolesence *must naturally deteriorate.*

The electrical refrigeration industry finds itself in the fortunate position of being one of those industries wherein the public year after year has found increased favor. It is an item which every home from the largest to the poorest should have because *proper preservation of food* is *proper preservation of health.*

We set a quota for this year which is double of that which we did last year and we confidently expect to carry it out and only some unforseen condition which at present does not seem to be on the horizon should keep us from reaching this margin.

We say this confidently because we build great hopes on the refrigeration industry and greater hopes on this country and our President.

With better business conditions prevailing, all lines of merchandise, particularly in the appliance field, will show increases in sales because as the country becomes more prosperous people will have the things they have always longed for. Also because of the constant propaganda and the increased use of electrical appliances, all lines will find favor with the public and the industry offering the public the greatest value for their money will naturally receive the greatest sales.

We believe that commercial refrigeration will forge ahead because many establishments knowing that business conditions are better will renovate their stores, add equipment, or replace obsolete refrigerator equipment.

We are also distributors for RCA Victor radios covering a large territory. There has been an increased demand on the part of the public toward the purchase of better radios and especially consoles. This bears out the often spoke opinions of leading merchandisers that people will eventually come back to quality.

The oil burner industry has a good future but at the present time it cannot be considered as a major item for a distributor to concentrate on. We believe, however, that any distributor taking on a well-known line of oil burners now will place himself in a position that within a few years it will be a source of profit for him.

We have been a constant reader of your trade journal for five years and have found in it many times information which has been most helpful which brings us to this: *Knowledge is power* and you are to be congratulated for furnishing a medium of information which contains facts without ballyhoo and which every member of this organization is encouraging our clientele to be a reader of for 1934.

MAX E. HEGLEMAN,
Sales manager.

Utility Betters Quota for Year by 112%

Houston Lighting & Power Co.
Westinghouse, Frigidaire, Kelvinator
Electric Building, Houston, Tex.
Jan. 9, 1934.

Editor:

This company is not a distributor of refrigerators, but functions only as a dealer through eight company-operated stores.

The sale of refrigerators by this company during the year 1933 was more than double the sale in 1932, being 112 per cent greater than 1932. As such it is considered satisfactory, being the best year for the refrigerator sales in the history of the company.

The number of stores operated in 1934 is expected to be the same as in 1933.

It is felt that there is a great future in all of the items mentioned in your letter, particularly air conditioning, household refrigerators, commercial refrigerators, dishwashers, and washing machines. The radio field is fairly well saturated and practically all the sales of radios will be replacements unless the industry should develop a satisfactory radio at such a low price as to encourage the use of them in several rooms of the home.

FRED STAACKE,
Superintendent of sales.

Sale of Refrigerators Has Just Started—Wiebe

Brown Supply Co.
Distributors of Grunow Refrigeration, Grunow Radio, and ABC Washers
2800 Pine St., St. Louis, Mo.
Jan. 19, 1934.

Editor:

Our organization attempted for the past eight years at one time or another to get into the electric refrigeration business. The first time was about eight years ago and our inexperience and that of others was certainly unprofitable. About three years ago we thought we were about right, but we were again unfortunate.

Even with these discouragements we felt that the future of electric refrigeration was something that was going to be very profitable to our business, not only from a money standpoint but from the values it would bring in contacts with our organization as well as the publicity that we would receive if we were able to line up with the right manufacturer.

Late in 1932 we were approached by the Wm. C. Grunow organization. We thought enough of their invitation that Cap Brown and myself made a trip to Chicago. After seeing what Bill Grunow had to offer it did not take us very long to decide.

To make a long story short, we got into the electric refrigeration business in March of last year and from early March until November we sold 2,500 Grunow refrigerators. With these figures before you and knowing that this was a new product and that we were really new in the distribution of electric refrigerators, you can see how enthusiastic we are for the future of electric refrigeration and we expect to double our business in 1934.

We do not believe that household refrigeration in general has started to be sold to the public as yet inasmuch as there has not been a definite campaign to educate the public to its real benefits. We know that a campaign of this kind by all refrigeration manufacturers would be a great help to this industry.

We, not having had any experience in air conditioning, commercial refrigeration, beer coolers, etc., cannot give you any opinion as to what we might expect on these lines. However, we believe that this year electric refrigerators, washing machines, and radio will outstep any of the other major appliances with which we are familiar.

FRED A. WIEBE,
Vice president.

Huyber Shows Profit On 1933 Sales

H & H Electric Co.
Rochester, Minn.
Jan. 18, 1934.

Editor:

While we were not entirely satisfied with our refrigerator business in 1933, it was profitable and showed an increase over 1932. We did not have as many dealers as previous years but did a greater volume of business.

We firmly believe with improving conditions 1934 will be by far the biggest refrigerator year in history for us. We look, in fact, for a nice increase in the general appliance lines this year, particularly washers. Air-conditioning, which must, of course, go through a stage of a lot of missionary work, will undoubtedly be a wonderful thing in the future.

J. P. HUYBER,
Manager.

Leonard Distributor Exceeds Quota 300%

Electric Range & Equipment Co.
2101-2103 Adams St., Toledo
Jan. 10, 1934.

Editor:

J. L. Berry, president of Electric Range & Equipment Co., who had no experience in the merchandising of electric household appliances previous to September, 1932, formerly in the building supply business, has completed, with the assistance of his very capable assistant, E. A. Tullis, who formerly was affiliated with the local power company, which is a Henry L. Doherty subsidiary, a very satisfactory operation in the retail sale of Leonard electric refrigeration in 16 counties in northwestern Ohio.

The first year of our operation with the Leonard franchise we exceeded our quota over 300 per cent and expect to double our previous year during 1934.

E. A. TULLIS.

Paris Leads Quota Busters Club

MANSFIELD, Ohio—Glen E. Paris of the J. G. Paris Furniture Co. in Ponca City, Okla., topped all Westinghouse refrigerator retail salesmen in the United States to win first place in the Westinghouse Quota Buster Club in 1933, according to factory officials here.

Second honors went to C. S. Westervelt of Allen-Ingraham, Inc., in New York City, while K. M. Peabody of the same organization got third highest percentage of quota. O. H. Smith of the Holland Electric Co., Whittier, Calif., was fourth among the retail men.

Highest sales supervisor in the Westinghouse organization in 1933 was Ed Hanlon of Allen-Ingraham, Inc., second honors in this division going to C. P. Stearns of the Edgar Morris Sales Co. in Washington, D. C.

ABC Plans to Use Specialty Outlets

(*Concluded from Page 1, Column 1*)

ABC rotary burner), Treasurer E. A. Weil, Assistant Chief Engineer Stanley Perry, Merchandising Counsel R. E. Caldwell, and A. H. Lockrae of Minneapolis-Honeywell Regulator Co. were among the speakers who attempted to sell the various distributors on the merits of the ABC franchise.

Testimonial speeches were delivered at the banquet Wednesday night by distributors Dave Trilling of Philadelphia, A. H. Burke of Boston, and Max Krich of Newark, all of whom are specialty distributors who have found the ABC franchise profitable.

George F. Taubeneck, editor of ELECTRIC REFRIGERATION NEWS, also spoke at the banquet.

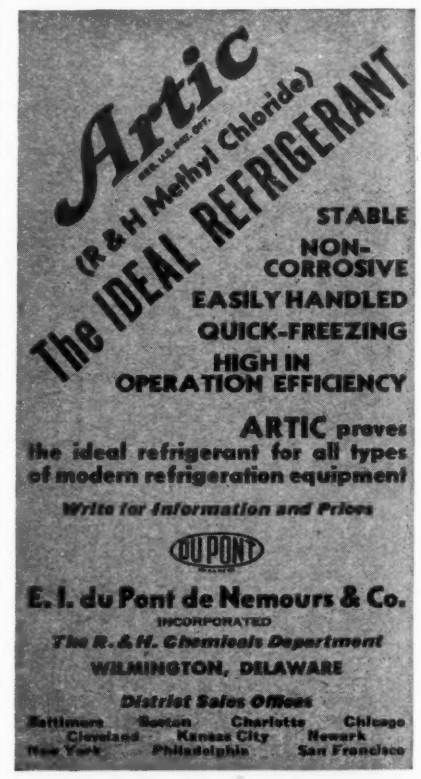
Thursday night the distributors were taken to the Chicago Stadium to see a professional hockey game as guests of the Automatic Burner Corp., after which they were piloted to a long ringside table at the Chez Paree club.

Friday was spent in individual conferences between ABC factory representatives and individual distributors.

O'Neil to Head Leonard Dept. Store Division

DETROIT — Department store activity of the Leonard Refrigerator Co. will henceforth be under the direction of J. J. O'Neil, according to Godfrey Strelinger, Leonard sales manager.

Mr. O'Neil, who managed the Leonard exhibit at the Century of Progress, was formerly new business manager of Refrigeration Discount Corp., which finances Leonard deferred payment sales.



11 Manufacturers Sell 32,844 Household Refrigerators in December, 1933

Member companies of the Refrigeration Division of the National Electrical Manufacturers Association reporting sales include Crosley, Frigidaire, General Electric, Gibson, Grigsby-Grunow, Kelvinator, Norge, Servel, Trupar, Universal Cooler, and Westinghouse. Member companies not reporting sales are Merchant & Evans Co., Potter Refrigerator Corp., Stewart-Warner Co., Sunbeam Electric Mfg. Co., Uniflow Mfg. Co., and Rudolph Wurlitzer, Inc.

	WORLD SALES		U. S. A. INVENTORIES			
			Factory, Branch, & Warehouse		Dealers and Distributors	
HOUSEHOLD						
Lacquer (Ext.) Cabinets With Systems	Quantity	Dollars	Quantity	Dollars	Quantity	Dollars
1. Under 4.00 cubic feet....	224	12,078	574	34,371	1,122	59,481
2. 4 to 4.99 cubic feet....	10,682	677,401	41,778	2,982,306	18,321	1,250,370
3. 5 to 5.99 cubic feet....	1,233	92,713	12,431	967,704	6,847	513,938
4. 6 to 6.99 cubic feet....	5,259	452,532	12,047	1,063,263	10,708	1,003,714
5. 7 to 7.99 cubic feet....	3,211	375,956	17,239	1,888,288	7,643	842,462
6. 8 to 9.99 cubic feet....	186	25,577	1,223	159,295	1,534	190,266
7. 10 to 12.99 cubic feet....	20	4,239	483	86,769	282	55,507
8. 13 to 16.99 cubic feet....	10	2,380	143	26,895	59	13,172
9. 17 to 24.00 cubic feet....	4	1,106	45	11,650	32	9,145
10. Total lacquer	**20,829**	**1,643,982**	**85,963**	**7,220,541**	**46,548**	**3,938,055**
Porcelain (Ext.) Cabinets With Systems						
11. Under 4.00 cubic feet....	25	1,547	30	1,876	86	4,910
12. 4 to 4.99 cubic feet....	1,154	93,443	10,629	979,246	3,129	283,533
13. 5 to 5.99 cubic feet....	228	20,622	2,108	201,449	1,606	159,008
14. 6 to 6.99 cubic feet....	2,792	288,281	5,716	592,103	5,145	595,084
15. 7 to 7.99 cubic feet....	3,686	467,862	14,938	1,940,832	7,215	945,466
16. 8 to 9.99 cubic feet....	1,459	206,463	3,579	516,331	2,725	399,501
17. 10 to 12.99 cubic feet....	449	77,740	1,132	200,158	922	171,265
18. 13 to 16.99 cubic feet....	167	34,550	1,048	221,621	416	91,905
19. 17 to 24.00 cubic feet....	23	7,842	317	84,298	158	48,147
20. Total porcelain	**9,983**	**1,198,350**	**39,497**	**4,737,914**	**21,402**	**2,698,819**
21. Total lines 10 & 20.....	**30,812**	**2,842,332**	**125,460**	**11,958,455**	**67,950**	**6,636,874**
22. Separate systems	1,376	61,159	5,076	220,203	600	19,865
23. Separate household low sides	656	11,545	6,713	122,295	633	12,140
24. Total lines 21, 22, & 23....	**32,844**	.....	**137,249**	.....	**69,183**	.....
25. High sides under ½ hp...	583	27,636	1,798	95,739	441	24,956
26. Cabinets—no systems	69	4,730	39,681	1,841,543	102	7,923
27.	.....	.....	.....	.....	.....	.....
28. Totals Household	.....	**2,947,402**	.....	**14,238,235**	.....	**6,701,758**
COMMERCIAL						
31. Water coolers with high sides	717	58,660	7,147	709,298	3,000	310,992
32. Water coolers with no high sides	66	3,304	2,604	92,736	149	7,506
33. Ice cream cabinets with high sides	140	18,563	2,209	322,714	107	14,151
34. Ice cream cabinets with no high sides	88	11,869	4,519	662,632	250	30,994
35. Milk coolers with no high sides	.....	.....	7	1,296	39	7,221
36. Room coolers with high sides	91	29,436	89	9,745	1	523
37. Room coolers with no high sides	165	19,753	1,350	141,237	296	26,805
38. Extra high sides, ½ hp. up	2,660	283,673	13,615	1,623,948	3,948	510,794
39. Total lines 31, 33, 36, 38, & 42.....	**3,768**	.....	**25,194**	.....	**7,617**	.....
40. Extra com. low sides.....	3,013	95,590	22,775	848,882	4,712	179,751
41. Misc. cases & cabinets....	.....	90,382	.....	357,917	.....	92,933
42. Beverage coolers	160	9,388	2,134	127,058	561	31,709
43. Totals Commercial	.....	**620,618**	.....	**4,897,463**	.....	**1,213,379**
44. Totals—Household and Commercial	.....	**3,568,020**	.....	***19,252,698**	.....	****7,915,131**

*The total of the figures by sizes and kinds does not agree with the total figure shown, namely $19,252,698, because of the failure to supply detailed information by all companies. The number of companies reporting inventories at factory, branches, and warehouses was 10. The percentage of total sales of these 10 companies was 99.3

**The number of companies reporting inventories of dealers and distributors was 9. The percentage of total sales of these 9 companies was 94.9.

Exports of Electric Refrigerators

November, 1933, Shipments Reported by the Bureau of Foreign and Domestic Commerce, Washington, D. C.

	Electric Household Refrigerators		Electric Commercial Refrigerators Up to 1 Ton		Parts for Electric Refrigerators
	Number	Value	Number	Value	Value
Azores and Madeira Islands...	1	$ 67	...	...	...
Belgium	43	2,338	6	$ 1,218	$ 4,780
Bulgaria	6	436	...	...	...
Czechoslovakia	...	...	4	816	5,704
Denmark	12	908	...	...	809
Finland	6	370	6	476	36
France	159	11,875	27	3,424	29,960
Germany	7	553	5	558	5,658
Gibraltar	2	123	...	...	1
Irish Free State	2	220	22	2,511	1,140
Italy	18	1,765	20	2,825	2,157
Netherlands	185	12,313	50	4,934	8,897
Norway	4	368	2	470	70
Poland and Danzig	1	140	...	...	130
Portugal	21	1,463	...	...	129
Spain	65	4,973	...	...	1,294
Sweden	18	1,423	7	708	1,791
Switzerland	23	1,347	17	1,806	8,781
United Kingdom	160	14,223	13	5,112	9,963
Yugoslavia	7	608	10	1,248	902
Canada	71	4,724	21	1,370	13,895
Costa Rica	3	192	...	...	...
Guatemala	1	139	...	...	3
Honduras	20	1,673	...	...	130
Panama	87	10,312	6	638	815
Salvador	5	405	...	...	134
Mexico	59	5,224	11	1,341	9,077
Newfoundland and Labrador...	...	...	...	...	5
Bermudas	24	2,380	4	942	332
Barbados	24	2,407	...	...	12
Jamaica	11	1,124	1	81	46
Trinidad and Tobago	7	582	...	...	1
Other British West Indies.....	5	485	...	...	61
Cuba	29	2,641	9	1,264	404
Dominican Republic	111	9,796	1	223	87
Netherland West Indies.....	23	2,475	1	125	63
French West Indies	1	76	...	...	...
Haiti, Republic of, ...	1	114	...	...	34
Virgin Islands of U. S.....	10	1,072	...	...	31
Argentina	604	35,750	3	803	28,671
Brazil	1,323	102,860	27	3,183	11,916
Chile	12	827	...	...	...
Colombia	57	4,218	...	...	725
Ecuador	7	784	...	...	...
British Guiana	2	325	...	...	...
Surinam	2	294	...	...	2
Peru	66	5,316	...	...	860
Uruguay	153	11,318	3	412	2,179
Venezuela	75	6,616	3	1,316	78
British India	140	12,975	10	1,784	2,223
British Malaya	88	7,396	4	499	321
Ceylon	22	1,348	7	844	178
China	197	14,798	...	...	5,543
Netherland East Indies.....	318	26,070	25	4,784	4,502
Hong Kong	9	574	9	5,982	152
Iraq	1	85	...	...	...
Japan	...	...	9	1,105	6,206
Kwantung	...	...	...	...	70
Palestine	33	2,203	5	752	1,269
Persia	1	115	...	...	...
Philippine Islands	149	13,401	9	1,118	1,876
Siam	15	1,361	...	...	9
Syria	9	1,179	2	338	...
Turkey	4	1,099	...	...	34
Australia	387	29,228	12	878	3,475
New Zealand	159	10,497	38	3,417	3,456
British East Africa	39	4,598	4	433	85
Union of South Africa.....	3,439	289,452	13	1,792	10,451
Other British South Africa.....	12	1,282	...	...	130
Gold Coast	...	...	...	...	44
Nigeria	1	137	...	...	155
Other British West Africa.....	2	205	...	...	142
Egypt	40	3,793	2	226	579
Algeria and Tunisia	123	7,950	12	1,500	1,016
Other French Africa	7	818	...	...	85
Italian Africa	1	64	...	...	...
Morocco	...	...	...	...	58
Mozambique	27	2,253	...	...	...
Canary Islands	22	1,483	...	...	5
Other Spanish Africa	2	134	...	...	...
Total.....	**8,780**	**$704,140**	**440**	**$ 63,256**	**$197,068**
Shipments to Hawaii.....	291	$ 28,810	21	$ 4,763	$ 4,019
Puerto Rico.....	93	$ 10,520	2	$ 400	$ 1,617

Nema Sales by States For December

The following tabulation shows the distribution of 11 Nema manufacturers sales by states for December, 1933.

STATES and Territories	Quantity of HOUSEHOLD Low Sides
Connecticut	432
Maine	171
Massachusetts	1,179
New Hampshire	106
Rhode Island	184
Vermont	69
New England Total	**2,141**
Delaware	53
Maryland & D. C.	780
New Jersey	1,706
New York (State)	6,370
Pennsylvania	2,344
Eastern Total	**11,253**
Kentucky	397
Ohio	1,923
West Virginia	183
East Central Total	**2,503**
Alabama	181
Florida	490
Georgia	293
North Carolina	267
South Carolina	122
Tennessee	182
Virginia	270
Southeastern Total	**1,805**
Illinois	1,363
Indiana	567
Michigan	1,433
Wisconsin	341
Great Lakes Total	**3,704**
Minnesota	396
North Dakota	56
South Dakota	81
North Central Total	**533**
Iowa	469
Kansas	235
Missouri	900
Nebraska	283
Middle West Total	**1,887**
Arizona	61
California	1,835
Nevada	22
Pacific Coast Total	**1,918**
Idaho	36
Montana	120
Oregon	336
Utah	66
Washington	92
Northwestern Total	**650**
Colorado	191
New Mexico	50
Wyoming	43
Rocky Mountain Total	**284**
Arkansas	121
Louisiana	211
Mississippi	85
Oklahoma	465
Texas	1,089
Southwestern Total	**1,971**
U. S. Miscellaneous	18
Total United States	**28,667**
Total Canada	209
Other Foreign (Including U. S. Possessions)	3,968
Total for World	**32,844**

Five Models Included In Wurlitzer's 1934 Line

(Concluded from Page 1, Column 4)

capacity, a shelf area of 9 sq. ft., and its two trays make 56 cubes at a freezing. Thickness of insulation in this model is 2 in. Lacquer is the finish used.

Smallest of the paneled models is another lacquer refrigerator, L-58, which has a 5.8-cu. ft. net capacity and an 11-sq. ft. shelf area. Temlok 2½ in. thick insulates this model. It has three ice trays supplying 84 cubes. An electric light is standard on this model. This refrigerator may be obtained in porcelain finish.

L-72, next in the line, is a lacquer model with 7.2 cu. ft. of storage space, and a 14-sq. ft. shelf area. Four ice trays make 112 cubes at a freezing. This model is finished in lacquer, but is available in porcelain. An interior light is standard equipment. Three inches of Temlok insulate this model.

Largest of the line is model P-85, with an 8.5-cu. ft. net capacity, and 16 sq. ft. of shelf area. This model, also, has four trays making 112 cubes at a freezing. Insulation is 3 in. thick. Porcelain is used on the exterior of this model.

All models have a compressor of the reciprocating conventional type, powered by a ⅛-hp. motor. Compressor speed is 430 r.p.m., according to Charles N. Deverall, chief engineer. Still featured in the Mohawk line is the "Duozone" system of cooling, by which one coil cools the food chamber, while another refrigerates the ice trays.

Also introduced at the meeting of representatives were several new radio models, and the company's new "Spedi-Spin" wringerless washer.

During the conferences, Mr. Capehart announced that Wurlitzer's business during the first 15 days of January was 281 per cent greater than that in the same period of 1933.

Present at the meeting were D. W. May, president of the D. W. May Corp. in New York City, and F. Del Carpio, New York representative for Platon Texido, Wurlitzer distributor in Barcelona, Spain.

Following the meeting in North Tonawanda, Mr. Capehart, with Mr. Deverall, and R. W. Camfield, traveling sales manager, conducted a two-day convention of salesmen and dealers of Sanford Brothers, Wurlitzer distributor in Chattanooga, Tenn., and Mocksville, N. C.

Mr. Capehart then flew to Minneapolis to hold a similar meeting at headquarters of W. S. Nott & Co., Wurlitzer distributor in that territory.

L. J. Brunner Elected Board Chairman of Brunner

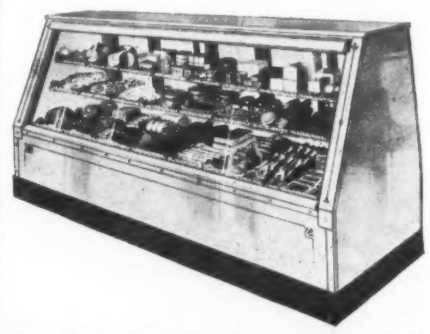
UTICA, N. Y.—L. J. Brunner was elected chairman of the board and G. E. Brunner president and treasurer of the Brunner Mfg. Co. at a recent meeting of the board of directors.

W. C. Allen was named vice president and sales manager, and M. H. Pendergast was elected vice president and factory manager. Other officers elected by the Brunner board of directors were A. G. Zumbrun, comptroller; and B. J. Scholl, secretary.

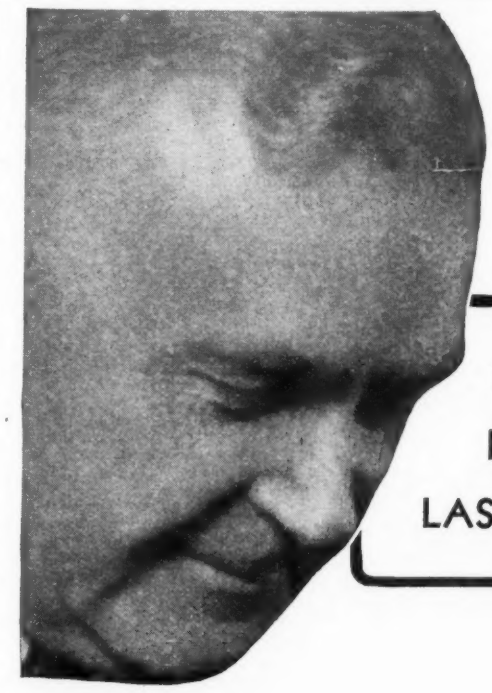
THE man buying refrigerated equipment today wants to know about the long life of the cabinet, about its continued efficiency, its operating economy. And because insulation has such an important bearing on all of these, your salesmen can go a long way towards a satisfactory answer when they say: "This equipment is insulated with Armstrong's LK Corkboard!"

Mr. Prospect knows the high insulating efficiency and durability of corkboard. Chances are he knows, too, its thirty-year record as standard insulation for the cold storage industry. And the fact that it's made by Armstrong gives him definite assurance of highest quality.

Refrigerated equipment manufacturers who are standardizing on LK Corkboard are finding that its light weight, rigid strength, high moisture resistance, and lasting efficiency provide convincing sales points. Let us send you complete data and samples for testing. Write Armstrong Cork & Insulation Co., 917 Concord St., Lancaster, Pa.

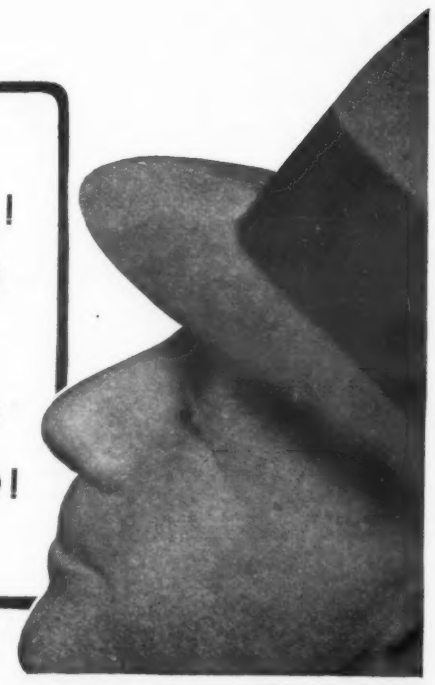


This Hill Display Case, made by the C. V. Hill Company, of Trenton, N. J., is thoroughly insulated with Armstrong's LK Corkboard.



THE CABINET I BUY HAS TO LAST A LONG TIME!

THIS ONE WILL! IT'S INSULATED WITH ARMSTRONG'S LK CORKBOARD!



HERE ARE *strong words* . . . THAT WILL HELP YOUR SALESMEN TO CLINCH ORDERS

Armstrong's LK Corkboard Insulation

Efficient, Durable Insulation for Refrigerated Equipment

PATENTS

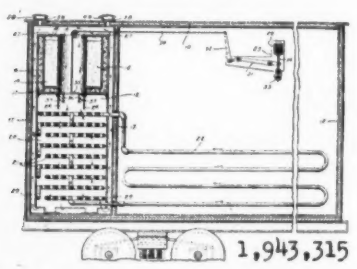
Issued Jan. 16, 1934

1,943,279. COMBINATION REFRIGERATOR AND BEVERAGE DISPENSER. Max Alex, Alhambra, Calif. Application May 31, 1933. Serial No. 673,592. 10 Claims. (Cl. 62—141.)

1. The combination of: a box having a cooling compartment therein; a liquid-receiving reservoir mounted above said cooling compartment; a cold-liquid storage reservoir mounted in said compartment; means for delivering liquid from said receiving reservoir to said storage reservoir; an outlet connection in said storage reservoir; an absorber generator containing a dry absorbent and a fluid refrigerant; means for periodically heating said absorbent to expel said refrigerant; conduit means communicating with said absorber generator and arranged in heat-transferring relation with the liquid in said receiving chamber; and a condensate container communicating with said last mentioned conduit, said condensate container having a part thereof exposed in said compartment.

1,943,315. ART AND APPARATUS FOR COOLING. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Feb. 7, 1929. Serial No. 338,113. 17 Claims. (Cl. 62—91.5.)

1. In apparatus of the class described, in combination, a refrigerating chamber, an evaporator within said chamber to con-



1,943,315

tain a solidified gas at atmospheric pressure and having a vent for the escape of gas into the chamber and a pipe line for circulating a liquid having a low temperature freezing point through said chamber and the medium to be cooled.

17. In apparatus of the class described, in combination, means forming a space whose temperature is to be regulated, a chamber thermally insulated from said space, containing means situated substantially near the top of said chamber and adapted to hold solid carbon dioxide, a continuous coil located in the lower part of said chamber below said containing means and extending into thermal contact with said space, said coil containing a low temperature heat absorbing fluid,means for controlling the flow of gas from said containing means to said chamber so that sublimation of said carbon dioxide may take place when said connection exists, and thermostatic means adapted to control said last-mentioned means to make said connection when the temperature of said space rises above that preferred.

1,943,316. REFRIGERATION. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Dec. 6, 1929. Serial No. 412,123. 15 Claims. (Cl. 62—91.5.)

15. In refrigerating apparatus, in combination, means forming a space to be maintained at a certain temperature, containing means within said space for a volatile liquid, means forming a condensing chamber adapted to contain solid carbon dioxide and thermally insulated from said space, a single conduit connecting said containing means with said condensing chamber, and a valve responsive to the pressure in said containing means for controlling the flow of liquid or vapor through said conduit.

1,943,317. REFRIGERATION SYSTEM. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Oct. 9, 1930. Serial No. 487,435. 25 Claims. (Cl. 62—4.)

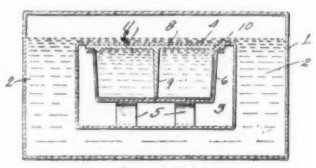
1. In a refrigeration system, in combination, means forming a space whose temperature is to be regulated, a refrigeration unit for said space, motive means for actuating an element of said unit, a second motive means for actuating said element, and means responsive to the application of a source of energy for said second motive means for stopping one of said motive means.

1,943,318. REFRIGERATION SYSTEM AND APPARATUS. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Jan. 15, 1931. Serial No. 508,836. 55 Claims. (Cl. 62—4.)

1. In a refrigeration system, in combination, a chamber whose temperature is to be regulated, a refrigeration unit for said chamber, an electric motor for driving an element of said refrigeration unit, motive means adapted to run continuously for substantial periods of time, generator means driven by said motive means for supplying current to said motor, and means responsive to varying needs for refrigeration in said chamber adapted to affect the operative standard of said generator means to change the rate of drive of said refrigerating unit.

1,943,466. SHARP FREEZING STRUCTURE. Constance Lane West and Frank R. West, Highland Park, Mich. Application Nov. 20, 1929. Serial No. 408,588. 9 Claims. (Cl. 62—108.5.)

1. The method of accelerating the freezing of liquids in sharp freezing containers of the type having a sharp freezing



1,943,466

chamber for receiving the container, which comprises positioning the container into contacting relation with the upper wall of the chamber, resiliently holding the container against said top wall and allowing a portion of the expanding frozen liquid to contact with said top wall whereby the container is forced away as a unit from said top wall due to said expanding action.

1,943,516. AIR-CONDITIONING APPARATUS FOR PASSENGER CARS. Jesse H. Davis, Baltimore, Md., assignor to B. F. Sturtevant Co., Boston, Mass., a corporation of Massachusetts. Application Jan. 15, 1931. Serial No. 508,997. 9 Claims. (Cl. 62—117.)

1. In an air-conditioning apparatus for railway cars, a motor driven air circulating fan, a motor driven compressor, a motor driven refrigerant circulating pump, electrical current supplying means for the motors including high and low voltage soudces, and controlling means for supplying current through said current supplying means to the fan motor alone from the low voltage source or the fan and pump motors from the low voltage source and the compressor motor from the high voltage source.

1,943,557. HEAT EXCHANGE DEVICE. Louis Ruthenburg, Birmingham, and John R. Replogle and Harold R. McPhail, Detroit, Mich., assignors to Copeland Products, Inc., a corporation of Michigan. Application June 13, 1932. Serial No. 616,856. 3 Claims. (Cl. 257—263.)

1. A heat exchange device comprising a pair of oppositely disposed fins having flanged openings formed in the adjacent edges thereof, the flanges of said fins terminating in spaced relation with the edges thereof, a tube extending through a pair of said openings between said fins and a tubular member surrounding said flanges and a tube for holding said flanges in contact with said tube and for pressing the ends of said flanges rigidly against said tube for preventing displacement of the fins thereon.

1,943,608. REFRIGERATION SYSTEM. Paul G. Hollinger, Chicago, Ill. Application, Sept. 23, 1929. Serial No. 394,705. 9 Claims. (Cl. 62—115.)

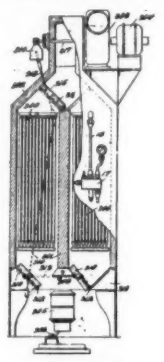
1. In a refrigeration system, a movable, liquid-refrigerant receiver, a cooling unit, valve-controlled connections between the receiver and said cooling unit, and power means influenced by the movement of said receiver when the latter has been provided with a definite amount of refrigerant liquid for causing a movement of the latter within the system.

1,943,613. AIR-CONDITIONING SYSTEM. Samuel R. Lewis, Chicago, Ill., assignor, by mesne assignments, to Chester F. Hockley, receiver for The Silica Gel Corporation, Baltimore, Md., a corporation of Maryland. Application Nov. 2, 1931. Serial No. 572,685. 15 Claims. (Cl. 257—8.)

1. In an air-conditioning system, in combination, a pair of air chambers, means to deliver air into one of said chambers, means in said chamber to lower the dry bulb temperature of the air delivered thereto, means discharging the colder portion of said cooled air into the other chamber, means to mix air from the two chambers to produce a desired temperature and delivery means for said mixture to a room to be cooled.

1,943,616. REFRIGERATION APPARATUS. Ernest B. Miller, Baltimore, Md., assignor, by mesne assignments, to Chester F. Hockley, Receiver for The Silica Gel Corp., Baltimore, Md., a corporation of Maryland. Application June 11, 1930. Serial No. 460,520. 25 Claims. (Cl. 62—5.)

1. In a refrigeration device, in combination, a plurality of adsorbers, a casing housing said adsorbers and having means



1,943,616

separating them, a burner in said casing beneath said means to heat said adsorbers, and means to direct the heat therefrom to one adsorber at a time, said last mentioned means deflecting air for cooling over another adsorber.

1,943,617. ADSORBER. Ernest B. Miller, Baltimore, Md., assignor, by mesne assignment, to Chester F. Hockley, Receiver for The Silica Gel Corp., Baltimore, Md., a corporation of Maryland. Application Nov. 13, 1930. Serial No. 495,474. 8 Claims. (Cl. 183—4.)

6. An adsorber including, in combination, a casing, top, bottom, and side walls therefor, a barrier of adsorbent material between the ends of said casing, a tower at each end of the casing, each tower including a wall closing the casing end, and a plurality of duct sections, each of said tower walls having a post therethrough for each duct.

1,943,646. REFRIGERATOR. Paul C. Warren, Lakeside, Mich. Application Dec. 9, 1931. Serial No. 579,878. 3 Claims. (Cl. 62—66.)

1. A refrigerator comprising a storage space having a door opening thereinto, a drawer in said storage space slidable outwardly through the door opening, said drawer having walls provided with openings adapted to permit free circulation therethrough when said drawer is in closed position, slidable closure members on said drawer, and means acting to operate said closure members to close said openings in said drawer when the latter is withdrawn.

1,943,759. CONDENSER SYSTEM FOR MECHANICAL REFRIGERATION. Wilfred Fourness, Oakland, Calif., assignor to The Fourness Development Corp., Ltd., New York, N. Y., a corporation of New York. Application Sept. 19, 1932. Serial No. 633,752. 2 Claims. (Cl. 257—37.)

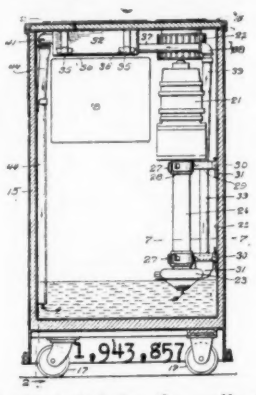
1. In a condenser cooling device for a refrigerating system, a multi-layer convoluted conduit forming a condenser space, a fan for passing air around the conduit, a spray head above the conduit, having a series of jets directed downwardly over the conduit, a spreader plate sloping downwardly toward the conduit and below the jets, a series of staggered baffle plates back of the conduit, a tank for collecting liquid at the bottom of the conduit and the baffle plates, and means for circulating an evaporizable liquid from the tank to the spray head.

1,943,820. SOLID CARBON DIOXIDE CONVERTER. Justus C. Goosmann, Mount Vernon, N. Y., assignor to American Dry-ice Corp., New York, N. Y., a corporation of New York. Application April 15, 1931. Serial No. 530,202. 17 Claims. (Cl. 62—91.5.)

4. In a converter of the type described the combination comprising a closed tank into which solid carbon dioxide is to be charged, a liquid receiver, a condenser within said tank and connections between the condenser and the liquid receiver.

1,943,857. PORTABLE COOLER. Augustus C. Durdin, 3d, Chicago, Ill., assignor to Chicago Pump Co., Chicago, Ill., a corporation of Illinois. Application May 14, 1932. Serial No. 611,386. 17 Claims. (Cl. 62—131.)

1. A cooler comprising in combination a cabinet having top, bottom and sides providing a compartment, a motor, blower and water pump assembly in said com-



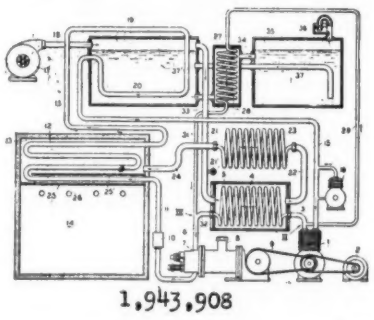
partment supported by the walls thereof, a heat absorber supported by the top of the cabinet and connected to the water pump by a conduit, there being an opening to said compartment through which said motor, blower and water pump assembly and the heat absorber are introduced into the compartment, and there being an air inlet, opening to said blower and an air outlet, opening out from said heat absorber.

1,943,883. NUMERAL AND LETTER FORMING REFRIGERANT CIRCUITS. Clyde C. Andrews, Portland, Ore. Application June 13, 1931. Serial No. 544,130. 1 Claim. (Cl. 40—125.)

In a device of the class described, the combination with a refrigerating system, of a plurality of characters of hollow tubular formation adapted to be joined together in open communication to form a continuous conduit through which a refrigerant may be circulated to form a frosted coating upon the exterior thereof, each of said characters having a plurality of baffle plates disposed therein, and supplemental tubular members extending through said baffle plates for directing the refrigerant through a predetermined path throughout the entire interior of the character, means formed in each of said characters for joining one with the other in open communication, said means including an individual section of tubing in open communication with each individual character, said individual tubing being internally threaded at both of its ends to threadedly receive a hollow union coupling, and each of said individual tubings being formed with a partition substantially midway its length.

1,943,908. METHOD OF APPARATUS FOR REFRIGERATION. William J. Woods Berkeley, Calif. Application July 23, 1932. Serial No. 624,222. 4 Claims. (Cl. 62—136.)

4. The method of refrigeration consisting of creating a draft of atmospheric air; drying said draft to a relatively low absolute



1,943,908

humidity; heating said draft at atmospheric pressure to a temperature sufficient to effect sterilization; cooling said draft to atmospheric temperature; then circulating said draft in proximity with suitable chilled coils.

1,943,938. COMBINATION COOLER AND ICE BOX. Whitney A. Haydel, Jeanerette, La., assignor of one-sixth to Louis P. Bryant, Jeanerette, La., and one-sixth to Joe A. Daigre, New Iberia, La. Application May 23, 1932. Serial No. 613,098. 1 Claim. (Cl. 62—42.)

1,943,962. REFRIGERATION. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application May 9, 1930. Serial No. 450,976. 26 Claims. (Cl. 236—1.)

10. In a system for conditioning a space, refrigerating apparatus including a compressor, an internal combustion engine operating said compressor, and means jointly controlled by the temperature within the space and the temperature outside the space for controlling the operation of said engine, said outside temperature being unaffected by said apparatus.

1,943,963. REFRIGERATION APPARATUS. George E. Hulse, New Haven Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Sept. 20, 1930. Serial No.483,195. 19 Claims. (Cl. 62—4.)

1. In a temperature regulating system, in combination, enclosing means for medium whose temperature is to be regulated, a refrigerating unit for the interior of said enclosing means, motive means for an element of said refrigerating unit, a clutch disposed between said motive means and said element, temperature responsive means for controlling the speed of said motive means and controlling said clutch.

1,943,964. REFRIGERATION SYSTEM. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Sept. 20, 1930. Serial No. 483,196. 15 Claims. (Cl. 62—4.)

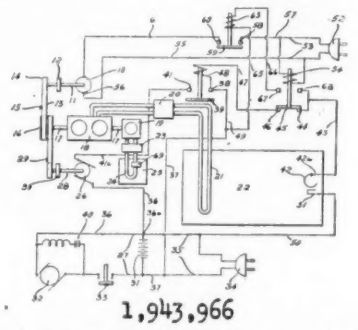
1. In a refrigeration apparatus, in combination, means adapted to contain a medium whose temperature is to be governed, a refrigerating unit for said means, motive means adapted to actuate an element of said unit, a starting member for said motive means, thermostatic means positioned in the circuit of a source of current and said starting member for controlling the actuation of said member, and means disposed in said circuit adapted to be actuated by variation of pressure from said motive means for regulating the actuation of said member.

1,943,965. TEMPERATURE CONTROLLING APPARATUS. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Sept. 20, 1930. Serial No. 484,541. Renewed Sept. 20, 1933. 31 Claims. (Cl. 257—3.)

1. In a temperature regulating system, in combination, motive means for refrigerating unit, speed controlling means for said motive means adjustable by relative pressure, means for exerting relative pressure on said speed controlling means by direction of rotation, a motor for rotating said pressure-exerting means, and temperature-responsive means for controlling the direction of rotation of said motor.

1,943,966. REFRIGERATION SYSTEM AND APPARATUS. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Oct. 23, 1930. Serial No. 490,598. 17 Claims. (Cl. 62—117.)

1. In refrigeration apparatus, in combination, a means forming a space to be cooled, a refrigeration unit for said space,



1,943,966

an electric motor for driving an actuated element of said unit, a second electric motor for driving said element of said unit, a thermostatic switch in the circuit of one of said motors, and a means responsive to the completion of the circuit to the other motor for making ineffective the circuit to the said one motor and for inserting said switch in the circuit of said last-mentioned motor.

1,943,967. REFRIGERATION. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Dec. 3, 1930. Serial No. 499,668. 7 Claims. (Cl. 62—117.)

1. In a refrigeration system for a vehicle, in combination, a vehicle, a chamber in said vehicle whose temperature is to be regulated over a period of time, means containing a liquid refrigerant, means forming a path of circulation between said containing means and said chamber, pumping means in said path, motive means for said pump, thermostatic means for controlling said motive means in response to the temperature of said chamber, a refrigeration unit for said containing means, an internal combustion engine adapted to run continuously for said period of time for driving an element of said refrigeration unit, a clutch member disposed between said engine and said element, and means

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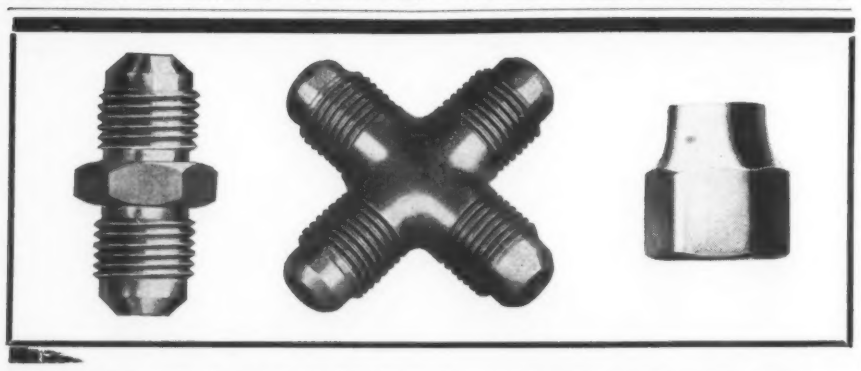

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PATENTS

(Continued from Page 14, Column 5)

for controlling the operation of said clutch in response to the temperature of said refrigerant in said container.

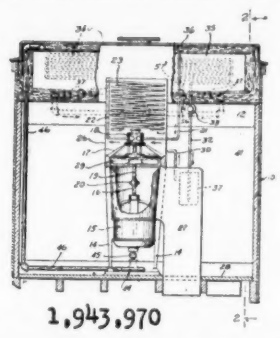
1,943,968. REFRIGERATION SYSTEM. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application, Dec. 22, 1930. Serial No. 503,997. 17 Claims. (Cl. 62—5.)

3. In a refrigeration system, in combination, a chamber whose temperature is to be regulated, a refrigeration unit for said chamber having means for releasing a refrigerant when heated and taking up said refrigerant when cooled, means for passing a cooling liquid into thermal contact with said first mentioned-means to cool the latter, means for cooling said liquid, means adapted to impart heat to said first-mentioned means, and thermostatic means responsive to the temperature of said chamber for controlling said cooling means and said last-mentioned means.

1,943,969. TEMPERATURE REGULATING SYSTEM AND APPARATUS. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Jan. 3, 1931. Serial No. 506,347. 33 Claims. (Cl. 527—3.)

1. In a temperature regulating system, in combination, means forming a space whose temperature is to be regulated, a refrigeration unit for said space, motive means for driving an element of said refrigeration unit, means for passing a fluid into thermal contact with said motive means to absorb heat therefrom, means for transferring heat from said fluid to said space, and means responsive to the temperature inside of said space and outside of said space for controlling said last mentioned means.

1,943,970. ART AND APPARATUS FOR The Safety Car Heating & Lighting Co., COOLING. George E. Hulse and John D. Strobell, New Haven, Conn., assignors to



1,943,970

a corporation of New Jersey. Original application October 5, 1922. Serial No. 592,483. Divided and this application Jan. 15, 1931. Serial No. 508,834. 25 Claims. (Cl. 62—117.)

1. In apparatus of the general nature of that herein described, in combination, heat-abstracting means adapted to cool a refrigerating fluid, a conduit for said cooled fluid, a source of motive power which is intermittently operated and arranged to drive said heat-abstracting means, a reservoir positioned at a higher level than and connected to said conduit for storing cooled fluid during the operative intervals of said heat-abstracting means and adapted thereby to permit a flow of said fluid through said conduit during intervals of operation and inactivity of said source of motive power, a container for receiving said fluid after its passage through said conduit, and means at the end of said conduit for predetermining the rate of flow of fluid through said conduit.

1,943,971. REFRIGERATION APPARATUS AND METHOD OF REFRIGERATING. George E. Hulse, New Haven Conn., assignor to The Safety Car Heating & Lighting Company, a corporation of New Jersey. Application Oct. 20, 1932. Serial No. 638,677. 21 Claims. (Cl. 62—91.5.)

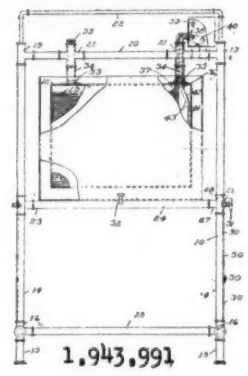
11. The herein described art which consists in cooling a liquid brine in a container by evaporating solid carbon dioxide in thermal contact therewith, and intermittently utilizing the gaseous refrigerant evolved therefrom to build up a pressure sufficient to force said brine into a pipe leading into thermal contact with a space whose temperature is to be regulated.

1,943,979. REFRIGERATOR CAR. John Lundvall, Chicago, Ill., assignor to Equipment Specialties Co., Chicago, Ill., a corporation of Illinois. Application Dec. 31, 1930. Serial No. 505,677. 6 Claims. (Cl. 220—72.)

1. A refrigerator tank adapted for use in refrigerator cars, constructed from sheet iron and assembled by welding and having fittings welded thereon, and having means welded to the iron bottom for securing an internal wood bottom, the whole metal assembly being galvanized after assembly.

1,943,991. MILK COOLER. Arthur Vernon Phillips, London, Ontario, Canada, assignor to Kelvinator Corp., Detroit, Mich., a corporation of Michigan. Application Feb. 3, 1931. Serial No. 513,175, and in Canada Jan. 10, 1931. 8 Claims. (Cl. 62—141.)

2. A milk cooler comprising a supporting frame, a container for the milk to be cooled supported by the frame, a tank dis-



1,943,991

posed within the container and suspended from the frame, a refrigerant evaporator in the tank, and means for lowering the container away from the tank.

1,943,994. REFRIGERATING SYSTEM FOR VEHICLES AND THE LIKE. John D. Strobell and George E. Hulse, New Haven, Conn., assignors to The Safety Car Heating & Lighting Co., a corporation of New Jersey. Application Dec. 30, 1929. Serial No. 417,410. 26 Claims. (Cl. 62—91.5.)

1. In refrigerating apparatus, in combination, a condenser containing a volatile liquid, an evaporator communicating with said condenser, said condenser being cooled by a refrigerant having a temperature below the temperature to be maintained by said evaporator, an adjustable check valve controlling the passage of vapor from said evaporator to said condenser, and thermostatic means controlling the passage to said valve.

1,944,056. COOLER FOR LIQUIDS. Alvin H. Baer, Carbondale, Pa., assignor to The Carbondale Machine Co., Carbondale, Pa., a corporation of Pennsylvania. Application Feb. 24, 1933. Serial No. 658,425. 8 Claims. (Cl. 62—141.)

5. In a cooler for liquids, a distributing trough, a series of pipes arranged to have the liquid from the trough flow successively over them, said series comprising a lower section supplied with a volatile refrigerant, an intermediate section supplied with liquid at an intermediate temperature, an upper section supplied with liquid at a higher temperature, and means connected to the intermediate section for precooling between peak loads the liquid used therein.

1,944,113. SOLENOID SHUT-OFF VALVE. Francis Shenton, Waynesboro, Pa., assignor to Frick Co., Waynesboro, Pa., a corporation of Pennsylvania. Application April 2, 1932. Serial No. 602,823. 3 Claims. (Cl. 137—139.)

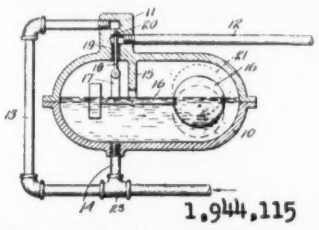
1. An electrically operated valve comprising a lower casing containing the valve elements and an upper casing containing the electrical elements, said valve elements comprising an inlet port and an exhaust port, a removable valve seat block between said ports, a valve stem, a valve stem guide carried by said removable valve seat block, a flexible joint in said valve stem, an armature secured to the upper end of said valve stem, a non-magnetic sleeve surrounding said armature and carried by said valve casing, a gas-tight joint between said sleeve and casing, a plug in the upper end of said sleeve, a stationary armature secured to said plug, a magnet carried by said upper casing and loosely surrounding said sleeve, said upper casing and magnet being adapted to be removed from said valve casing without disturbing said valve elements, substantially as set forth.

1,944,114. ICE CREAM FREEZING ATTACHMENT. Nels T. Skowlund, Marinette, Wis. Application June 6, 1932. Serial No. 615,696. 3 Claims. (Cl. 259—105.)

1. In a portable ice cream freezing attachment for mechanical refrigerators of that type including a well for receiving a freezer can containing cream scraping and agitating devices, a portable structure consisting of an apertured closure for the can, an axially apertured closure for the well, inner and outer rotatable elements for operating said devices, said elements being arranged in concentric relation and with said inner element extending from the ends of said outer element, said outer element extending through the apertures of and permanently coupling said closures together, a gear box having a closed end, an open end and an opening in its side, the open end of said box being seated against one face of the well closure, said inner element being journaled in the closed end of said box, a gear within said box, fixed to one end of said outer element and opposing said face, a gear within said box, fixed to said inner element in proximity to said closed end and spaced from said other gear, an extension integral with said side adjacent the opening in the latter and disposed at right angles to said box, said extension being formed with spaced apertured means for the passage of holdfast devices to detachably anchor said structure upon the top of the refrigerator, and a driven shaft journaled in said extension, extending into said box and provided with means meshing with said gears for operating them.

1,944,115. REFRIGERANT CONTROL FOR ICE MACHINES. Normal M. Small, Waynesboro, Pa., assignor to Frick Co., Waynesboro, Pa., a corporation of Pennsylvania. Application May 24, 1930. Serial No. 455,311. 2 Claims. (Cl. 137—103.)

1. The combination with the liquid supply line to an evaporator of a float chamber, a valve controlling flow of liquid re-



1,944,115

frigerant through the supply line, a float mounted in said chamber and connected to said valve, said float operating to open it upon a rise of liquid in the chamber whereby only liquid refrigerant is delivered through the liquid supply line, a suction line from the bottom of said chamber extending into said liquid supply line whereby passage of liquid through the supply line will create a suction in the bottom of the said chamber, substantially as set forth.

1,944,126. REFRIGERATOR STRUCTURE. Robert John, New York, N. Y. Application Nov. 10, 1933. Serial No. 698,111. 32 Claims. (Cl. 62—89.)

1. In a refrigerator, an evaporator, an ice freezing compartment, a thermally conducting shelf providing upper and lower food compartments in said refrigerator, sealed against air movement from one compartment to the other, said evaporator positioned partly in said upper compartment and partly in said lower compartment.

14. A refrigerator comprising evaporating means, an ice freezing compartment cooled thereby, an upper food compartment and a lower food compartment defined by a thermally conductive partition, said partition being provided with sealing means insulated at all its points of connection with the walls of said cabinet whereby to provent thermal conduction from said walls to said partition.

1,944,138. ELECTRICAL APPARATUS. Walker J. King, Elmhurst, Ill., assignor, by mesne assignments, to Grigsby-Grunow Co., a corporation of Illinois. Application Jan. 12, 1931. Serial No. 508,099. 1 Claim. (Cl. 173—311.)

A gas-tight current lead-in comprising a metal cylindrical shell having an inner tapered wall, a ceramic sleeve having an outer tapered wall disposed within said shell and extending substantially the entire length thereof, a solid conducting core having a thick central portion tapering down on both sides therefrom disposed within said sleeve and layers of glass joining and sealing opposing surfaces along substantially the entire length of said shell to form a unitary structure.

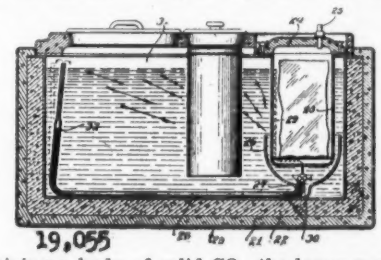
1,944,146. AIR-CONDITIONING APPARATUS. Hobart B. Howry, Sioux City, Iowa, assignor, by direct mesne assignments, to National Air-Conditioning Co., Sioux City, Iowa, a corporation of Iowa. Application March 16, 1931. Serial No. 523,065. 12 Claims. (Cl. 257—3.)

1. In an air-conditioning apparatus, a housing provided with inlet and discharge openings, means to create a current of air through the housing from one opening to the other, a radiator interposed between the openings and adapted to produce either a heating or cooling effect on the air passing therethrough, means for supplying heating and cooling fluids to said radiator, a thermostatic control for the heating fluid supply means, and a moisture responsive control for the cooling fluid supply means.

REISSUES

19,055. REFRIGERATING SYSTEM. Lloyd G. Copeman, Flint, Mich., assignor to Copeman Laboratories Co., Flint, Mich., a corporation of Michigan. Original No. 1,840,619, dated Jan. 12, 1932. Serial No. 525,786, March 27, 1931. Application for reissue Aug. 2, 1933. Serial No. 683,396. 22 Claims. (Cl. 62—91.5.)

16. A refrigerating system, comprising a container for receiving a body of liquid to be cooled, a second container for re-



19,055

ceiving a body of solid CO_2, the lower portion of said container and body of solid CO_2 being directly positioned in said body of liquid when in operation, means for conducting evaporated CO_2 gases from the bottom portion of said container into the body of liquid being cooled whereby the gases will flow downwardly in wiping the inside of the CO_2 container and a portion of the body of liquid will wipe the outside of the container and move in the same downward direction, and relief means set to discharge to the atmosphere any surplus CO_2 accumulating above a predetermined pressure.

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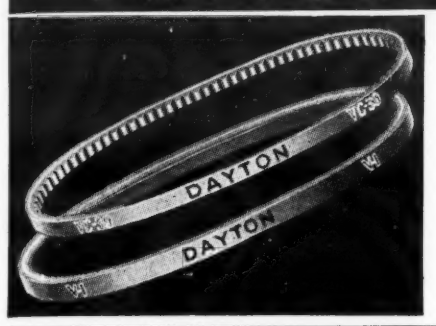

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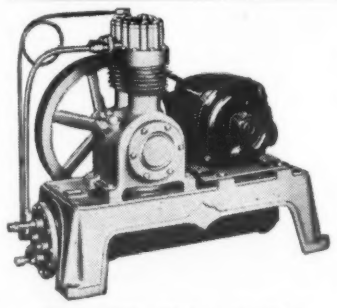

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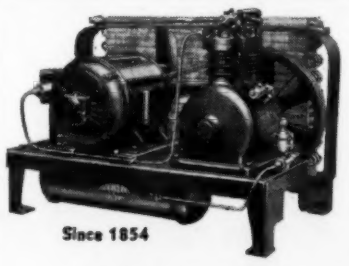

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